

H α emission-line stars in molecular clouds.

II. The M42 region.

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ABSTRACT

We present a deep survey of H α emission-line stars in the M42 region using wide-field objective prism films. A total of 1699 H α emission-line stars were identified, of which 1025 were previously unknown, within an area of $5.5^\circ \times 5.5^\circ$ centred on the Trapezium Cluster. We present H α strength estimates, positions, and JHK_s photometry extracted from 2MASS, and comparisons to previous surveys. The spatial distribution of the bulk of the stars follows the molecular cloud as seen in CO and these stars are likely to belong to the very young population of stars associated with the Orion Nebula Cluster. Additionally, there is a scattered population of H α emission-line stars distributed all over the region surveyed, which may consist partly of foreground stars associated with the young NGC 1980 cluster, as well as some foreground and background dMe or Be stars. The present catalogue adds a large number of candidate low-mass young stars belonging to the Orion population, selected independently of their infrared excess or X-ray emission.

Key words. Stars: emission-line – Stars: formation – Stars: pre-main sequence

1. Introduction

The Orion Molecular Cloud is the nearest giant molecular cloud, a site of intense star formation and one of the most thoroughly studied regions of the sky. The cloud extends for 15 degrees in an elongated shape that can be divided into two subregions, Orion A to the south and Orion B to the north, each having $\sim 10^5 M_\odot$ of molecular gas (Maddalena et al. 1986).

The well-known OB association Orion OB1 extends through the Orion constellation and constitutes subgroups of different ages and locations, sometimes partially superimposed. Associated with the OB stars (Briceño 2008), the region contains a rich population of intermediate and low-mass young stars. Bally (2008) presents an overview of the young stellar populations, and the morphology and possible formation history of the cloud.

The prominent Orion Nebula, M42, is an HII region located in the northern part of the Orion A molecular cloud, corresponding to Lynds 1640. To the south, the cloud extends to Lynds 1641, also part of Orion A.

Menten et al. (2007) estimate a distance of 414 pc to M42, which is the distance we assume here for the entire Orion A cloud.

The M42 nebula is excited by the massive stars of the Orion Nebula Cluster (ONC), mainly by the Trapezium, a tight cluster of massive young stars. The ONC is one of the youngest and most active sites of star formation of the cloud, studied in detail at many wavelengths (e.g. in the optical by Hillenbrand 1997 and Da Rio et al. 2009, in X-rays by Getman et al. 2005, in the near- and mid-infrared by Megeath et al. 2012). An exten-

sive overview of the ONC can be found in Muench et al. (2008) and O'Dell et al. (2008).

Fewer studies extend the coverage to the wider areas outside of the ONC. Carpenter et al. (2001) used 2MASS to identify over a thousand young stars in Orion A through their variability. They examined a $0.84^\circ \times 6^\circ$ strip centred on the ONC and found a distribution that correlates with the H α emission-line stars and the molecular gas. Most of the variability can be explained by cold and hot starspots, by accretion, or by varying extinction.

Davis et al. (2009) imaged Orion A in H $_2$ 2.122 μm in search of molecular hydrogen outflows and their sources, which they classify as mostly protostellar. The *Spitzer* survey from Megeath et al. (2012) covers Orion A and B and classify 2991 pre-main-sequence stars with disks and 488 as likely protostars, based on mid-infrared colours that indicate the presence of a dusty envelope or circumstellar material. A catalogue with five mid-infrared colours is presented. They detect variability in 50% of the young sources.

The powerful radiation field and the expanding HII region of the ONC have cleared away some of the cloud surrounding the cluster, making part of the young stellar content visible at optical wavelengths. Such visible young stars are recognisable through the H α emission line which is caused by ongoing accretion processes.

Large-scale objective prism surveys focused on the H α line have for a long time been an important way to identify young stars in clusters and throughout molecular clouds. In Orion, the pioneering work of Haro (1953) identified 255 H α emission-line stars in an area of 3.5 square degrees around the bright-

est part of M42. Parsamian & Chavira (1982) added additional stars to Haro's list, following his nomenclature, and listed a total of 534 stars in a 5 square degree region. Additional information on many of these stars is summarised in the catalogues of Herbig & Kameswara Rao (1972) and Herbig & Bell (1988), which were for years a reference for many of the optically visible young stars in Orion.

Subsequently, a large and systematic $H\alpha$ emission survey was performed throughout the Orion constellation using the Kiso Schmidt telescope, covering an area of 300 square degrees, resulting in about 1200 emission-line stars detected with limiting magnitude of $V=17.5$. The results were published in a series of papers, each covering one region in Orion (Wiramihardja et al. 1989; Kogure et al. 1989; Wiramihardja et al. 1991, 1993; Nakano et al. 1995). Their coordinate range in the sky is about $4^h8 < \alpha < 6^h2$, $-13^\circ < \delta < +7^\circ$ (J2000).

Brand & Wouterloot (1992) present an overview of the low mass star formation in Orion, including a comprehensive list of all $H\alpha$ emission-line stars compiled from all the surveys known until then, including their own work in the L1641 cloud (Wouterloot & Brand 1992). The catalogue contains 1297 stars in the range $5^h45 < \alpha < 5^h81$, $-10^\circ < \delta < +02^\circ6$ (J2000). It includes all the Kiso surveys, except for the last two published in 1993 and 1995 (114 stars).

Recently, Szegedi-Elek et al. (2013) performed a survey for $H\alpha$ emission-line stars in an area of one square degree around the ONC, using slitless grism spectroscopy. They detected 587 stars with emission, of which 99 are new findings.

Another technique used to detect $H\alpha$ emission is through the use of narrow and wide filters centred on the $H\alpha$ line. This technique was used by Da Rio et al. (2009). In a $30' \times 30'$ region approximately centred on the ONC they detected 323 stars with a strong line excess exceeding 50 \AA in equivalent width and 315 stars with weak $H\alpha$ excess corresponding to equivalent widths in the $5 - 50 \text{ \AA}$ range. As noted by the authors, the uncertainty in the derived $H\alpha$ emission is difficult to evaluate, and may be affected by various problems, including the non-uniformity of the strong nebular $H\alpha$ emission. Their survey is mainly focused on the central region of the ONC where we are most affected by the strong nebular background, and hence there is little overlap between our surveys. Finally, one can of course detect $H\alpha$ emission by obtaining spectra of individual stars. With modern multi-slit spectrographs this is becoming feasible, as for example demonstrated by the kinematic study of Fűrész et al. (2008), who observed 1215 stars in the ONC, of which 1111 stars were confirmed as members. The disadvantage of this method from the point of view of searching for new young stars is that the targets first need to be selected by some criteria, so the search is not unbiased. In the following, we compare our results only with other objective-prism or grism surveys.

In this paper we continue to present the results of a series of large scale searches for $H\alpha$ emission-line stars using photographic films and the large objective prism at the ESO Schmidt telescope, before it ceased operations in 1998. The first of the series (Reipurth et al. 2004, from now on Paper I) studied the NGC 2264 star forming region, where we detected 357 $H\alpha$ emission-line stars, of which 244 were new findings. In the present paper we focus on Orion.

The area surveyed here is $5^\circ5 \times 5^\circ5$ on the sky centred on the Orion Nebula Cluster, covering a wider area than all of the previous surveys except the Kiso survey, but deeper than that one. By going deeper, we are sensitive to lower-mass stars, and also to stars suffering higher extinction.

Table 1. List of Schmidt films

Date	No.	Exp. time (minutes)	Filter	Seeing (")
1995 Nov 24	12093B	120	RG630	1.0
1995 Nov 27	12103B	15	RG630	1.0
1996 Feb 13	12175B	120	RG630	0.9
1996 Nov 20	12852B	40	RG630	0.5
1996 Dec 13	12896B	150	RG630	0.8
1996 Dec 14	12898B	150	RG630	0.7
1997 Jan 06	12935B	40	RG630	0.5
1997 Jan 11	12952B	90	RG630	0.85
1997 Jan 31	12972B	90	RG630	0.8

$H\alpha$ emission in young stars is widely assumed to be triggered by accretion from a circumstellar disk through funnel flows onto the star. $H\alpha$ emission is thus a measure of a temporary condition, and is therefore expected to be variable, although the timescale of variability is poorly known. An advantage of using $H\alpha$ emission to identify young stars is that even stars with little circumstellar material, which are thus difficult to identify as young in infrared surveys, can accrete and produce the tell-tale $H\alpha$ emission. $H\alpha$ emission-line surveys and infrared surveys therefore to some extent complement each other.

2. Observations

Spectral films (sensitised Kodak 4415) were taken between 1995 and 1997 at the ESO Schmidt telescope at La Silla, equipped with an objective prism that yields a dispersion of 800 \AA mm^{-1} at $H\alpha$, as already described in detail in Paper I. The RG 630 filter used provides a spectral range from 630 nm to 690 nm, a narrow range centred on the $H\alpha$ line. Exposure times ranging from 15 minutes to 150 minutes allowed the detection of emission in both faint and bright stars. The very central region of M42, where the nebulosity is too intense, was impossible to examine, even in the shortest exposures. The size of the films ($30 \text{ cm} \times 30 \text{ cm}$) corresponds to a field of $5^\circ5 \times 5^\circ5$ on the sky. All exposures were centred on the position $\alpha: 5^h35^m \delta: -5^\circ25'$ (J2000). Table 1 lists the films employed in the present study.

3. The survey

The Schmidt films were visually inspected with the use of a binocular microscope in search of emission against the continuum of the stars. About 2360 candidate $H\alpha$ emission-line objects were initially identified. An $H\alpha$ strength was assigned to each object, in a range from 1 to 5, following the same procedure used for our NGC 2264 survey (Paper I). The $H\alpha$ strength is defined so that 1 is weak emission against a strong continuum and 5 is strong emission against a weak or absent continuum. Only the stars identified as unequivocally possessing emission were retained, and emissions identified as coming from HH objects and some galaxies were also removed, which altogether reduced the number of stars in our survey to 1699.

The POSS-II surveys (from 1987/1988 Digitised Sky Survey, DSS) that provide $m_J m_F m_N$ images with a plate scale of $1'' \text{ pixel}^{-1}$, were used to obtain initial coordinates for the stars. The images were retrieved in FITS format and had astrometric information in their headers. The task MAKEWCS from the IRAF image reducer package was used on each image to add a coordinate system that can be understood by IRAF. The IRAF task IMEXAMINE was used to determine the coordinates of each star

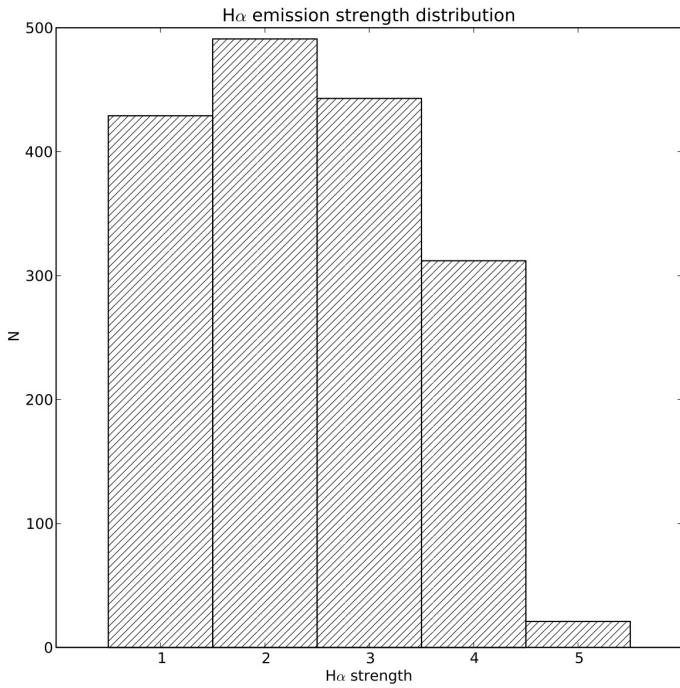


Fig. 1. Distribution of $H\alpha$ emission strength assigned by eye to the stars. When there was a range of values, the lower one was used.

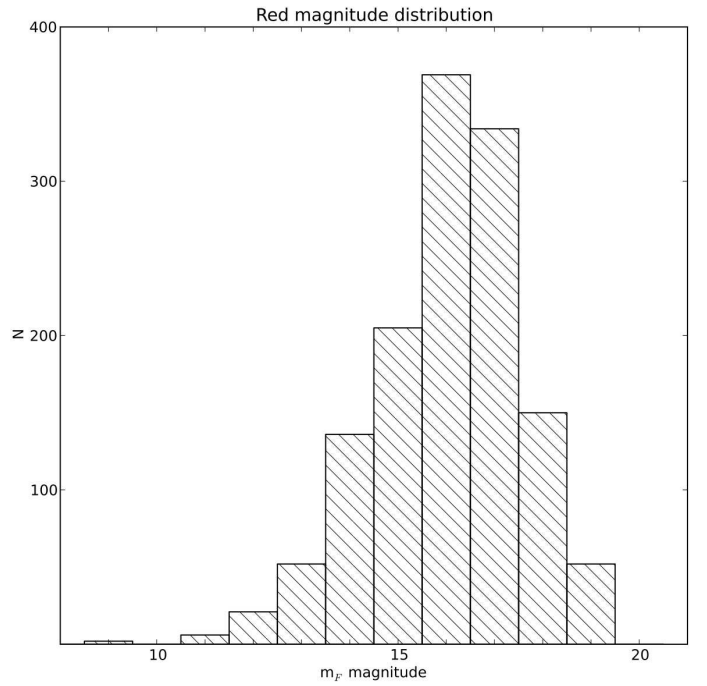


Fig. 2. Brightness distribution of the 1327 $H\alpha$ emission stars with a m_F magnitude. The limiting magnitude of our survey is about 17-18 mag.

visually identified in the finding charts. R images were used to measure the coordinates for most of the stars, while I images were used in regions where the nebulosity is particularly bright at optical wavelengths.

These initial coordinates were searched (within a radius of $2''$) among the stars of the 2 Micron All Sky Survey (2MASS) catalogue in order to obtain near infrared JHK_s magnitudes. The 2MASS coordinates have expected uncertainties of $0''.1$, better than what we achieved with the DSS images. Therefore, the present survey uses the 2MASS coordinates. In some cases with close pairs the 2MASS listed coordinates were not resolved and coordinates were visually measured from 2MASS J frames. Finding charts for the new stars, extracted from the DSS, are presented in Figs. 8-18, available in the electronic version. Emission-line strengths were estimated by eye on each film separately. Differences in estimates are indicated as hyphenated values, and may represent either intrinsic variability and/or uncertainty in the estimate. Nearly 18% of the stars present such differences. The distribution of $H\alpha$ emission strength is shown in Fig. 1.

The USNO-B catalogue was used to get blue, red, and infrared photographic magnitudes (m_J , m_F , and m_N) for most of the stars. Blue and red magnitudes were extracted from the GSC-2.2 catalogue for a few additional stars that were only detected in that catalogue. Both catalogues provide optical magnitudes for about 80% of our stars. We also got crossidentifications with the 2MASS catalogue and were able to obtain near-infrared JHK_s magnitudes for all but eight stars.

The brightness distribution of the 1327 $H\alpha$ emission-line stars with a (red) m_F magnitude is shown in Fig. 2. The limiting magnitude of our survey is about $m_F=17$ -18 mag. The peak at 16 mag indicates that the vast majority of the stars detected in our survey are low-mass objects, most likely T Tauri stars. The faintest stars either have higher extinction or they are brown dwarfs.

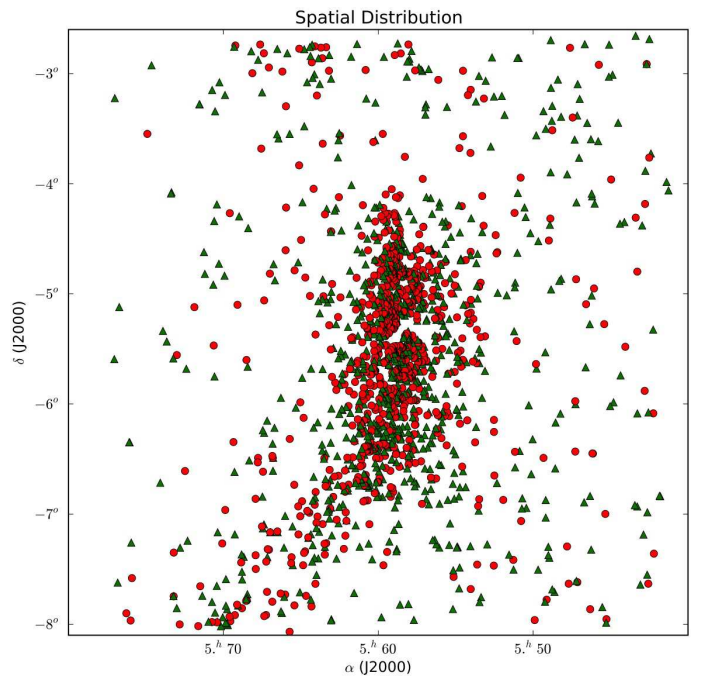


Fig. 3. Spatial distribution of the 1699 $H\alpha$ emission stars in our M42 survey. The patches that are empty of stars in the central region are located where the HII region is very intense, complicating the detection of $H\alpha$ emission-line stars. Stars with an $H\alpha$ value of 1-2 are plotted with green triangles and 3-5 as red dots. See text for a discussion.

The spatial distribution of the emission-line stars is shown in Fig. 3. The patches that are empty of stars in the central region are located where the nebulosity is too intense, even in the shortest exposures.

Table 2. $H\alpha$ emission-line stars in M 42

ESO $H\alpha$	GCVS	Kiso $H\alpha^a$	HBC ^b	Haro ^c	PaCh	Other ^d	$\alpha(2000)^e$	$\delta(2000)^e$	$H\alpha^f$	m_J^g	m_F^g	m_N^g	J^h	H^h	K_s^h	Notes ⁱ
	V731	76-59		4-48	70		05 33 47.71	-04 52 08.5	2	16.05	14.54	13.01	11.64	11.03	10.73	
		76-61		4-99	73		05 33 48.22	-05 13 26.2	3	18.36	16.50	14.90	12.99	12.14	11.71	
857						*	05 33 48.34	-05 22 39.4	1			13.96	12.70	11.99	11.72	
858							05 33 48.51	-07 13 59.3	2	12.63	18.72	15.83	13.81	13.20	12.91	
	V354	76-63		4-300	78		05 33 49.54	-05 36 20.8	2			15.15	12.37	11.32	10.71	
	HX	75-186		4-18	75		05 33 50.27	-04 38 34.2	3	14.61	13.35	12.30	11.21	10.52	10.29	11
859						*	05 33 50.74	-05 00 39.5	2	18.01	16.59	14.91	13.18	12.42	12.12	
		76-64		4-39	77		05 33 51.35	-04 48 22.2	1-2	16.26	14.68	13.64	12.48	11.61	11.27	
	HY	76-66		4-159	81		05 33 52.36	-05 41 50.2	1	15.60	14.52	12.82	11.72	10.90	10.56	
860							05 33 52.62	-04 57 51.0	3	18.67	16.91	15.43	13.37	12.74	12.46	
861							05 33 53.38	-07 14 11.6	2	17.58	16.41	13.81	12.88	12.30	12.06	2,8

Notes. The full table with all the 1699 $H\alpha$ emission-line stars is available electronically. A few lines are reproduced here only for guidance regarding format and content. ^(a) Kiso $H\alpha$ catalogue from Wiramihardja et al. (1993). ^(b) Herbig & Bell (1988) catalogue. ^(c) Haro (1953) catalogue: Haro 4-1 to 4-255, Parsamian & Chavira (1982): Haro 4-256 to 4-495, Haro & Moreno (1953): Haro 5-1 to 5-98. ^(d) An asterisk means a star also listed in Szegedi-Elek et al. (2013). ^(e) Positions extracted from the 2MASS All-Sky Catalog. ^(f) The $H\alpha$ strength is defined so 1 is weak emission against a strong continuum and 5 is strong emission against a weak or invisible continuum. Hyphenated values may represent either variability and/or uncertainty in the estimate. A '+' indicates resolved spectra but unresolved DSS image. ^(g) The magnitudes m_J , m_F , and m_N are from the blue (IIIaJ emulsion), red (IIIaF emulsion), and infrared (IV-N emulsion) digitised sky surveys extracted from USNO-B catalogue or from GSC 2.2. ^(h) JHK_s magnitudes extracted from the 2MASS All-Sky Catalog. ⁽ⁱ⁾ Notes to individual stars.

3.1. Comparison with previous surveys

There were 674 stars in our survey that had already been detected in previous objective prism $H\alpha$ surveys, yielding a total of 1025 new $H\alpha$ emission-line stars in the Orion region. Of the previously known emission-line stars, 436 are found in the compilation from Brand & Wouterloot (1992), which comprises most of the work done until then in surveying the Orion region for $H\alpha$ emission-line stars. The star Strom 6 appears in Brand & Wouterloot (1992) but is designated as L1641 N. In addition, 238 stars were found to be in common with the recent survey of Szegedi-Elek et al. (2013). Since the stars of Szegedi-Elek et al. were not given an identifier and their survey was done simultaneously with our present survey, we have retained our ESO- $H\alpha$ numbers for those stars that we have in common.

The Herbig & Bell (1988) catalogue (HBC) has 126 stars inside our field, of which we detected 55 (44%). The HBC catalogue was compiled from stars observed with different techniques and at different epochs. At least a dozen HBC stars are located in the brightest M42 area, where our films are overexposed.

Haro's catalogue (Haro 1953; Parsamian & Chavira 1982) has 530 stars in our field, of which 359 were detected by us (68%). Their coordinates are in some cases rather uncertain, and this plus variability in the line emission must account for the 32% of stars not detected by us.

Among the 471 stars from the Kiso $H\alpha$ catalogue of Wiramihardja et al. (1993) that lie inside our field, 314 were also detected by us, a fraction of about 67%. The Kiso catalogue was constructed in a more uniform way, similar to our survey, but the ratio of stars in common is still low. Our survey is much deeper than Kiso's; our long exposures reach 150 minutes while Kiso's maximum exposures are 90 minutes, and in the same area surveyed they detected a quarter of the number of emission-line stars detected in our survey. In general the $H\alpha$ emission strengths assigned by eye (with the same scale) in both surveys agree very well, but it is noteworthy that most of the stars in common have larger emission strengths, peaking at 3. The undetected Kiso objects were all re-examined on our films; some were located in the overexposed areas, while others were classified by us as possible emitters, but were not included in our final table. About 60% of the undetected Kiso objects certainly show no emission at our resolution.

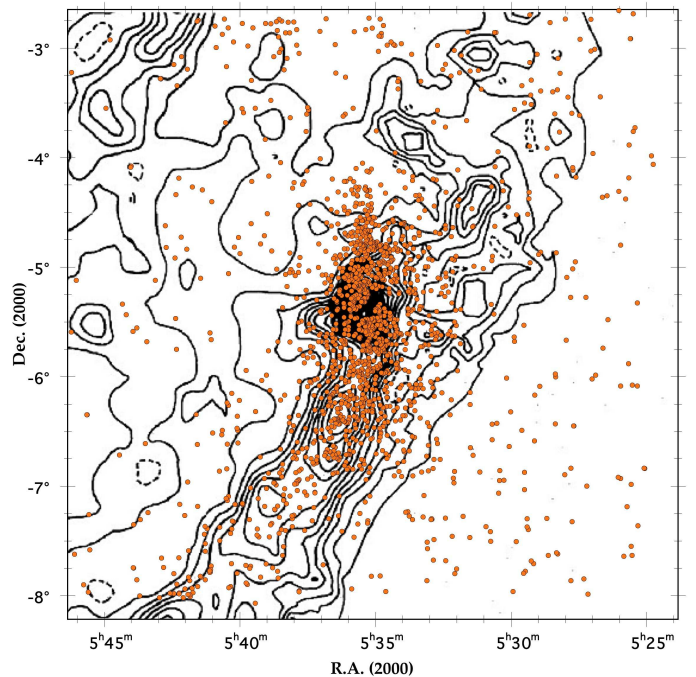


Fig. 4. Distribution of the $H\alpha$ emission stars (orange dots) overplotted on a CO map contour from Maddalena et al. (1986).

3.2. Description of the table

A table with the $H\alpha$ emission stars in M42 was built using the same criteria as the NGC 2264 survey (Paper I). Some representative lines are listed in Table 2. The full table is available in the electronic version, and will also be available electronically from CDS. The first columns are: the ESO $H\alpha$ identification number, assigned only to the stars not detected previously, the variable name or number from General catalogue of variable stars (Kukarkin 1985), followed by the identification numbers of the $H\alpha$ emission surveys from Wiramihardja et al. (1993), Herbig & Bell (1988), Haro (1953), Parsamian & Chavira (1982), and other possible names. The coordinates (J2000) are given in the next columns, followed by the $H\alpha$ emission strength and the magnitudes obtained in the USNO-B catalogue (m_J , m_F , and m_N) and in 2MASS (JHK_s). The last column provides comments on individual objects. Finding charts

for individual stars, often located in crowded regions or as components in close binaries, are presented in Figures 8–18, which are available in the electronic version only.

3.3. Spatial distribution and relation to CO clouds

The main concentration of $H\alpha$ -emitting stars corresponds very well to the distribution of the gas in the Orion A Cloud, as shown in Fig. 4 in a comparison with a CO map from Maddalena et al. (1986). The region with the largest number of stars matches the area with strongest CO emission, and the stellar density continues to trace the south-eastern L1641 dark cloud. The vast majority of these stars are likely to represent young T Tauri stars with ages approximately similar to the age of the ONC.

Additionally, there is an almost uniform distribution of stars all over the 30 sq. degree area of our survey. This population may have a more complex composition. First, some of the stars may originate in the ONC, and have been scattered away as a result of N-body interactions in the cluster. Second, there is a slightly higher density of $H\alpha$ emitters to the west of the cloud, where the extinction is quite a bit lower than to the east. This might indicate that some of the stars could be background stars, for example distant Be stars. Third, and perhaps most important, it is known that there are several generations and populations of young stars in the general direction of the ONC (e.g. Blaauw 1964, Warren & Hesser 1978, and Gomez & Lada 1998). Most recently, Bouy et al. (2014) have argued that there is a rich population in front of the Orion A cloud, centred on and probably originating in the little-studied cluster NGC 1980 just south of the ONC. At an age of ~ 4 –5 Myr, this foreground cluster would still have many low-mass members with $H\alpha$ emission. We would expect a younger population to have generally stronger emission, whereas an older population would have fewer stars with strong emission. We have examined this, and in Fig. 5 the stellar density of the two groups is plotted as a function of distance to the centre of the ONC. It is evident that the stronger-line stars ($H\alpha$ -strength 3,4,5) are indeed more concentrated towards the centre of the ONC, whereas the weaker-line stars ($H\alpha$ -strength 1,2) are more distributed. This supports the idea of Bouy et al. (2014) that we are seeing the mixture of two populations of young stars, one related to the ONC and another to the slightly older NGC 1980 region. Additional interlopers from, for example, the NGC 2024 and σ Ori regions may be present as well.

It thus appears that the $H\alpha$ emission stars found across our field represent two distinct groups, one related to the young population of ONC stars, and another group more uniformly spread across the field with a mixed origin, some coming from the foreground NGC 1980 cluster and others representing scattered ONC stars or background Be stars.

3.4. Near-infrared properties

The $H\alpha$ emission stars of our survey that are detected in all three bands of the 2MASS near-infrared catalogue are plotted in a colour-colour diagram ($J - H$) vs. ($H - K_s$) in Fig. 6. Also plotted are the locations of main-sequence and giant stars from Bessell & Brett (1988) corrected to the 2MASS photometric system (Carpenter et al. 2001), with interstellar reddening vectors from Rieke & Lebofsky (1985).

Of 1664 stars with valid JHK_s magnitudes, 261 ± 51 have infrared excess, one indication of the presence of circumstellar material. The uncertainties in the 2MASS magnitudes are on av-

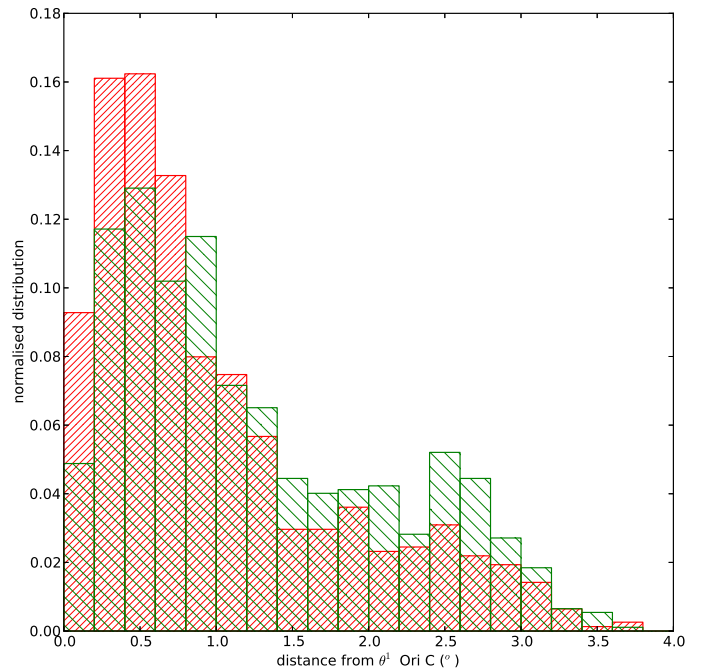


Fig. 5. Distribution of stellar density with increasing distance to Θ Ori. A difference in distribution between stronger-lined stars (red, dense hatch) and weaker-lined stars (green, sparse hatch) is apparent, with the former more clustered around the Trapezium and a wider distribution of the latter.

erage 0.04 mag and can raise or lower the number of infrared-excess stars by about a quarter.

The fraction of $H\alpha$ emitting stars with infrared excess is only $\sim 16 \pm 4\%$. In our survey of NGC 2264 (Paper I) performed with the same equipment, we found that $23 \pm 8\%$ of the $H\alpha$ emitters show an infrared excess, which is similar within the cited errors. There can be several reasons that only a relatively small fraction of $H\alpha$ emitters have infrared excess. First, many weak-line T Tauri stars have little circumstellar material. Second, not all $H\alpha$ emitting stars are necessarily young, for example dMe stars and Be stars will have $H\alpha$ emission, but no infrared excess. Third, although the population of stars from the foreground cluster NGC 1980 is young, at an age of 4–5 Myr there will be many fewer classical T Tauri stars than among the ONC population. Fourth, even young stars with little circumstellar material can from time to time accrete and thus temporarily produce $H\alpha$ emission.

A small number of stars (less than 2%) are located in the so-called forbidden region to the left of the main-sequence locus and the reddening vectors, but all of them are faint and/or located in nebulous regions, suggesting that their 2MASS uncertainties are underestimated.

In Fig. 7 the distribution of the stronger-lined stars ($H\alpha$ -strength 3,4,5) and the weaker-lined stars ($H\alpha$ -strength 1,2) is plotted in a *WISE* two-colour diagram used to classify young stars into Classes I, II, and III based on infrared excess as an indicator for the presence of circumstellar material (e.g. Koenig et al. 2012). Of the few stars that fall in the Class I category almost all have strong $H\alpha$ emission. The Class II category is also dominated by stars with stronger emission, although a sizeable number of weaker-lined stars are also in this category. The Class III category is strongly dominated by stars with weak line-emission. Since $H\alpha$ -emission is mainly an indicator for ongoing

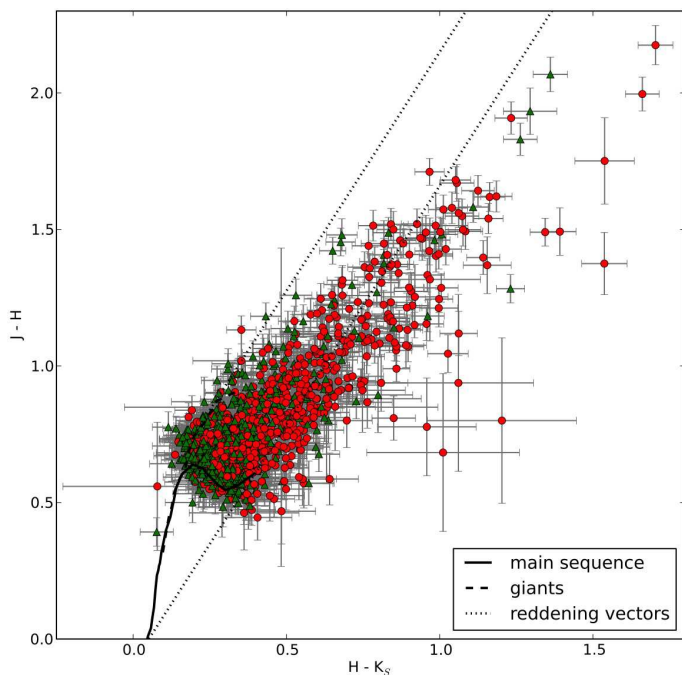


Fig. 6. Near-infrared colour-colour diagram based on 2MASS data showing all the $H\alpha$ emitters in M42 with 2MASS detections in all the three bands (JHK_s), except upper limits. Main-sequence and giant loci from Bessell & Brett (1988), corrected to the 2MASS photometric system (Carpenter et al. 2001) and the extinction law from Rieke & Lebofsky (1985), are represented in the figure. Symbols as defined in Fig. 3.

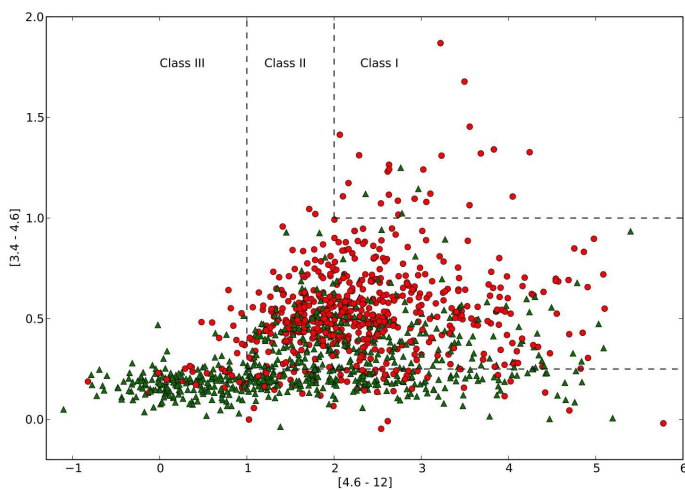


Fig. 7. Distribution in a WISE two-colour diagram, separating stronger-lined stars (red dots) from weaker-lined stars (green triangles). The dashed lines separate Class I, II, and III sources, see discussion in Koenig et al. (2012)

accretion, these results follow the intuition that stars with more circumstellar material are more likely to be actively accreting.

4. Conclusions

We have observed the central Orion region in a deep wide-field survey for $H\alpha$ emission-line stars, detecting 1699 stars with emission, of which 1025 were previously not known to show $H\alpha$ emission. The stars fall into two groups, one that contains most of the stars and is distributed along the L1641 cloud, and another

that is more or less uniformly distributed. A detailed photometric and spectroscopic follow-up study is required to more precisely identify which stars are likely to be members of the young ONC population, or of the slightly less young foreground NGC 1980 population, or are general foreground or background stars.

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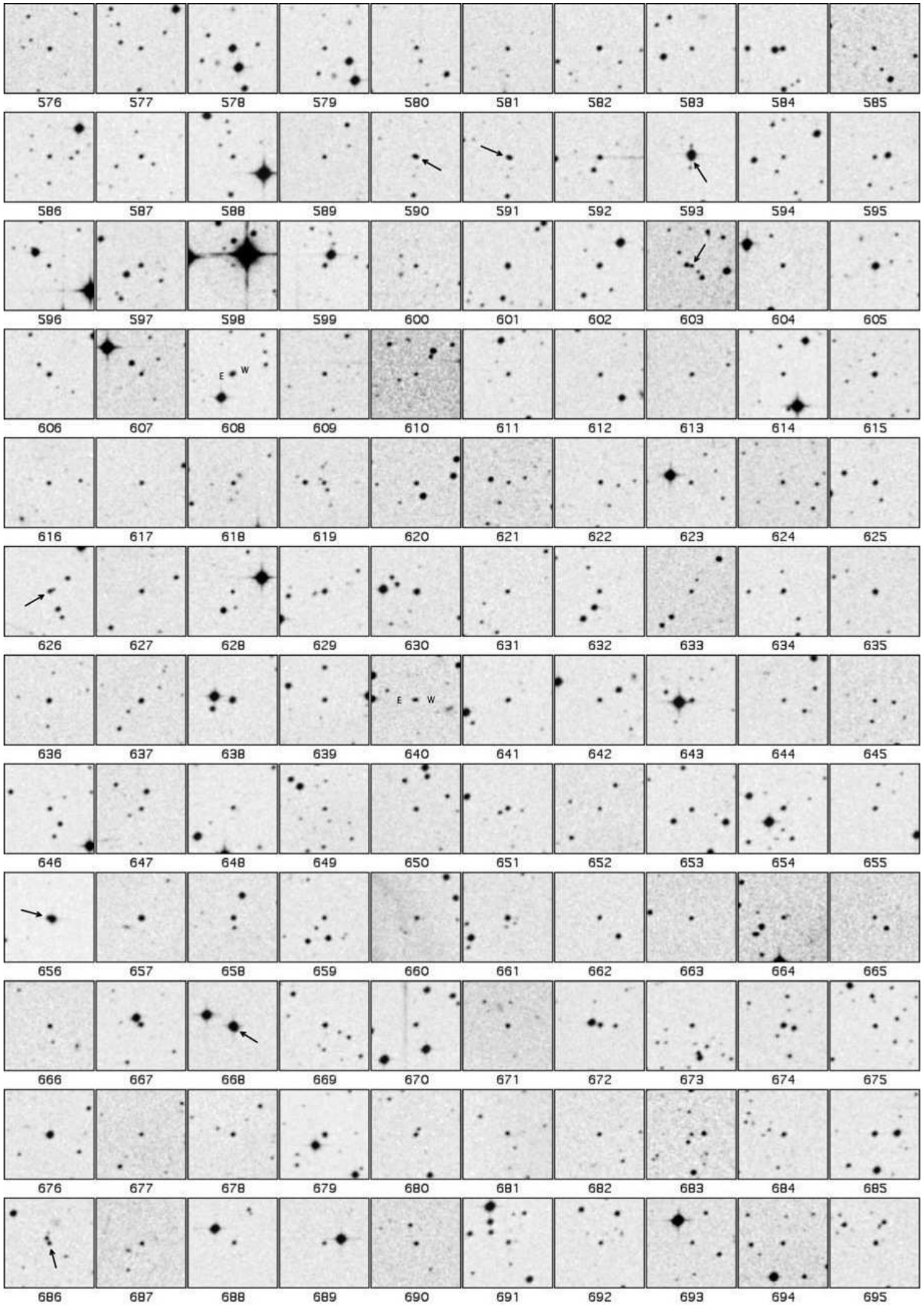


Fig. 8. Finding charts, 90'' to a side. North is up and east to the left.

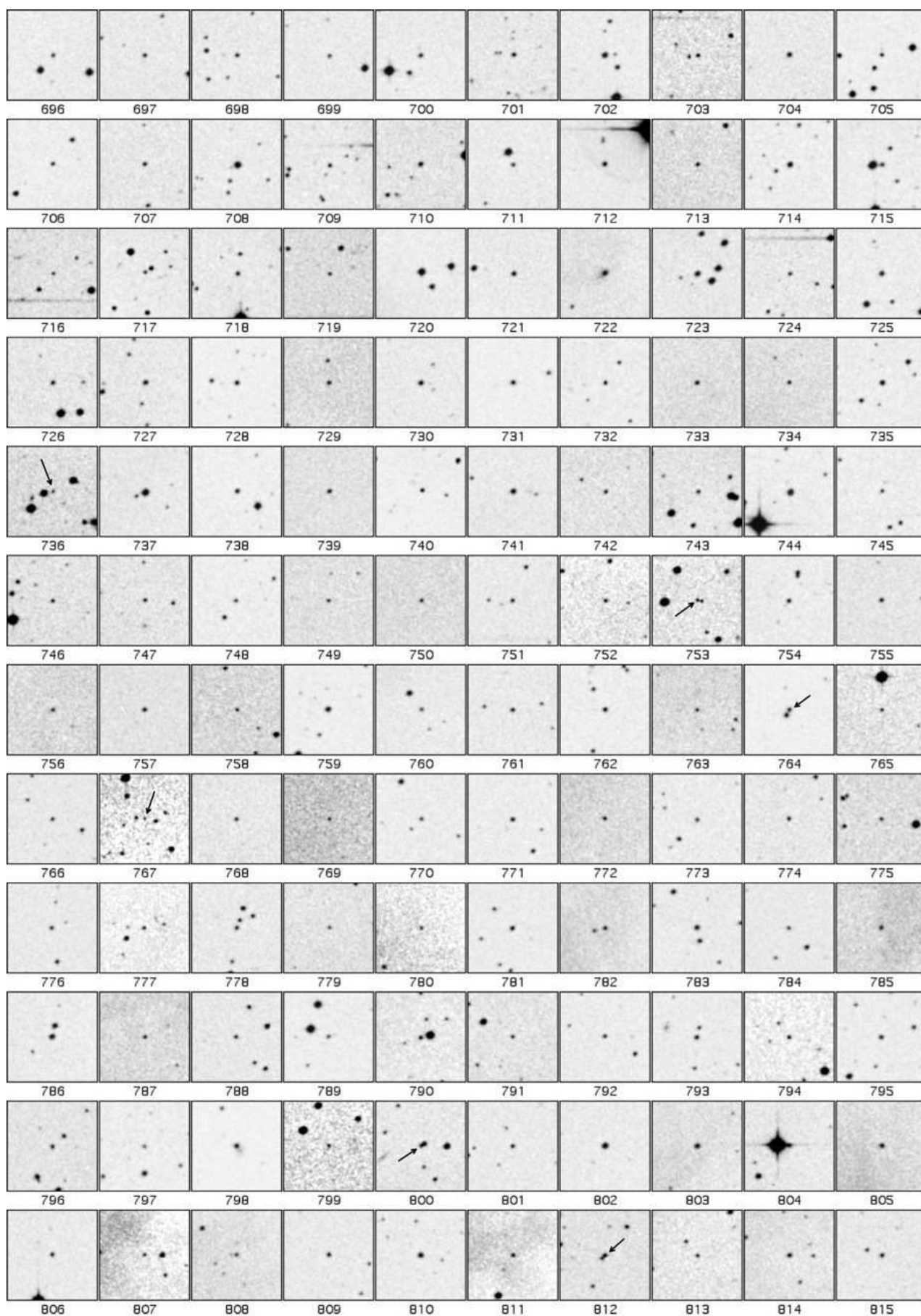


Fig. 9. Finding charts, 90'' to a side. North is up and east to the left.

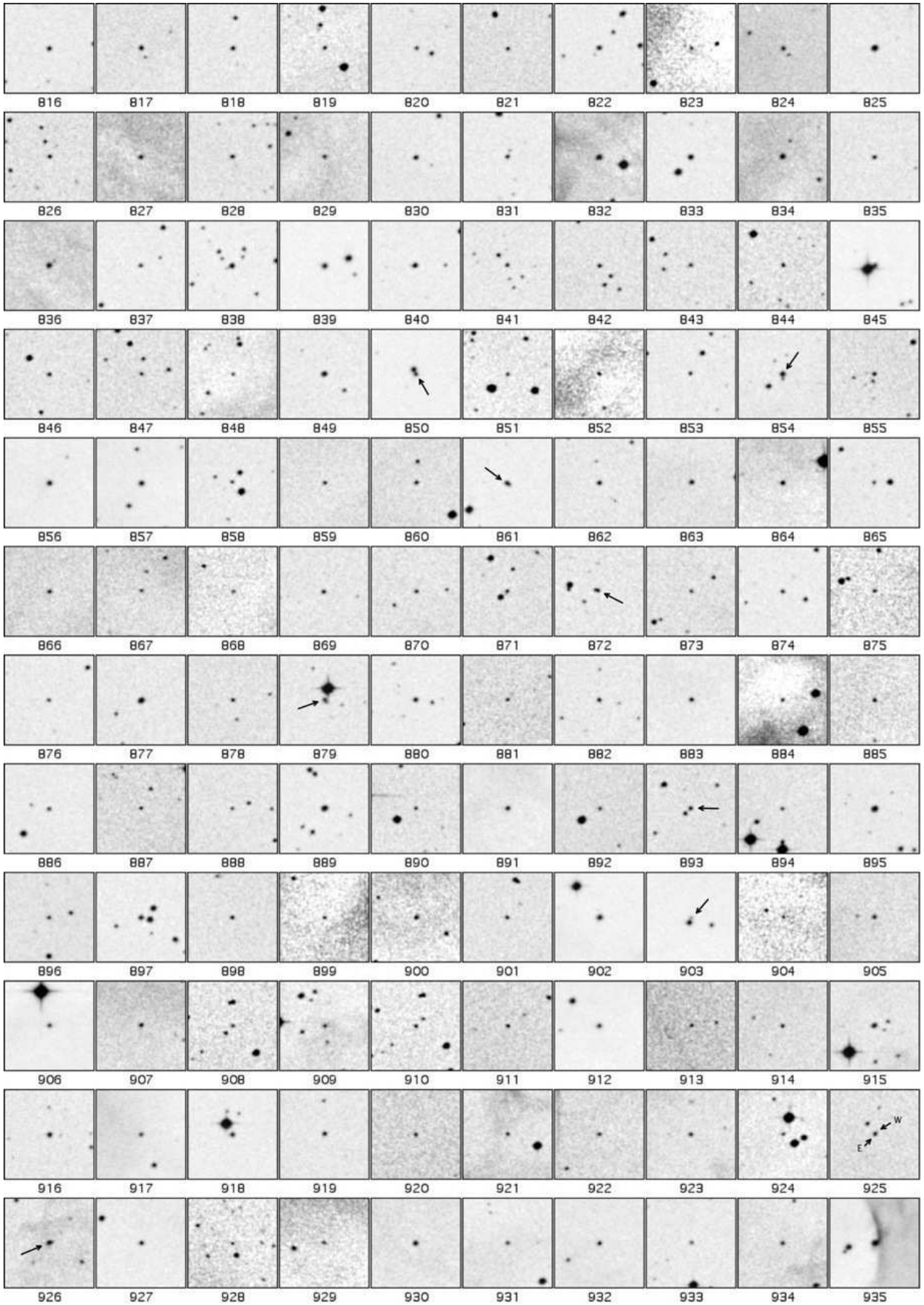


Fig. 10. Finding charts, 90'' to a side. North is up and east to the left.

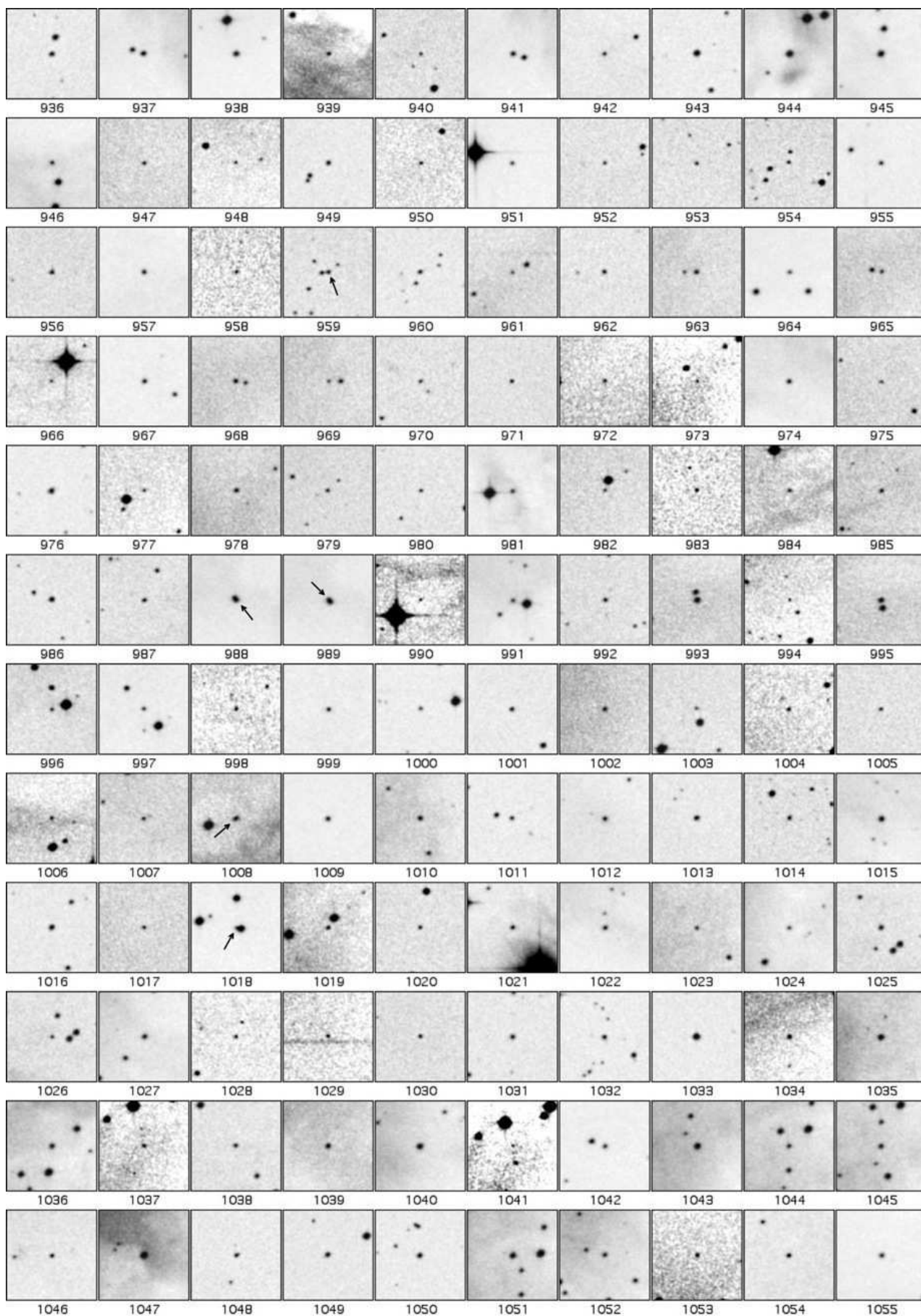


Fig. 11. Finding charts, 90'' to a side. North is up and east to the left.

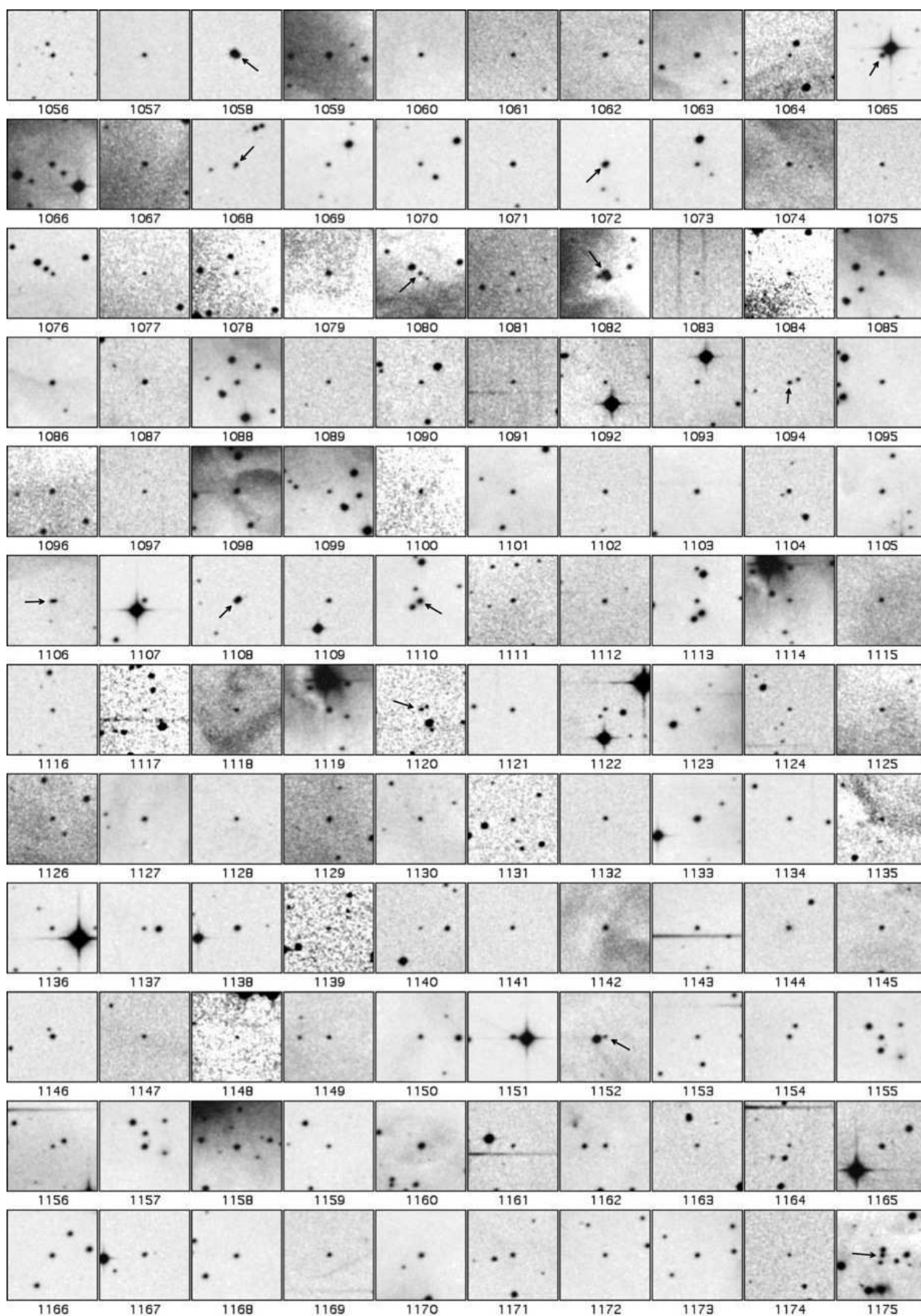


Fig. 12. Finding charts, 90'' to a side. North is up and east to the left.

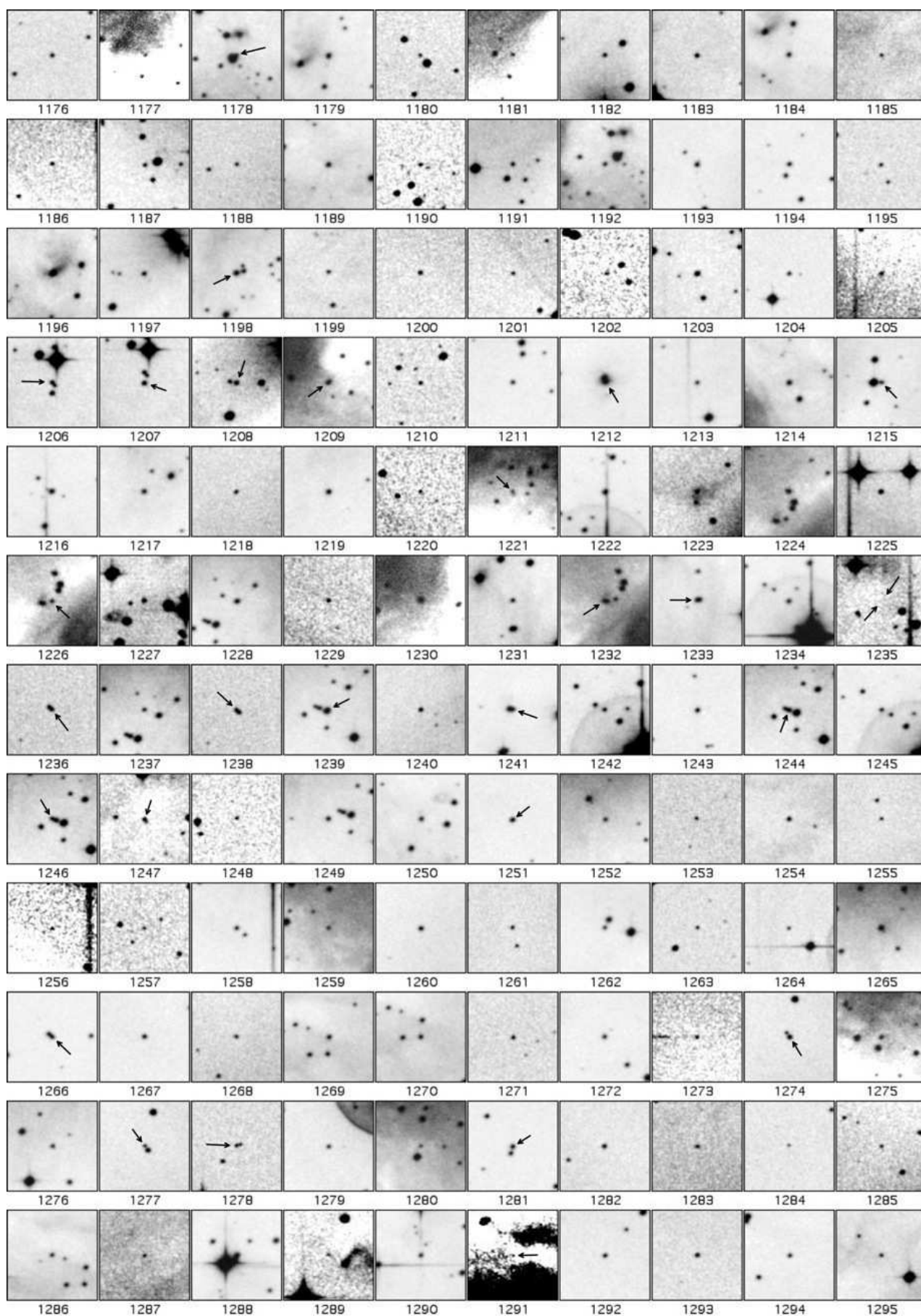


Fig. 13. Finding charts, 90'' to a side. North is up and east to the left.

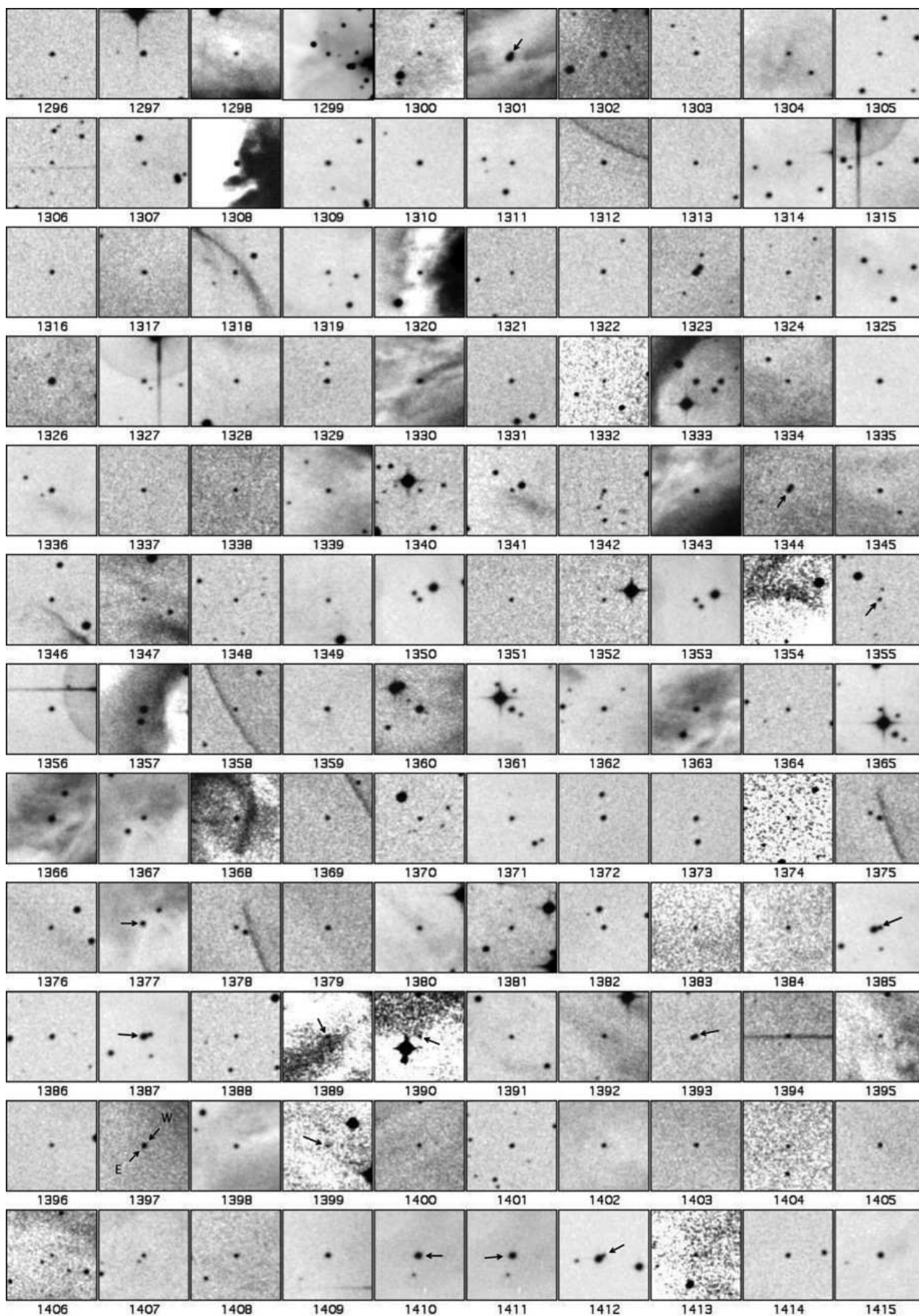


Fig. 14. Finding charts, 90'' to a side. North is up and east to the left.

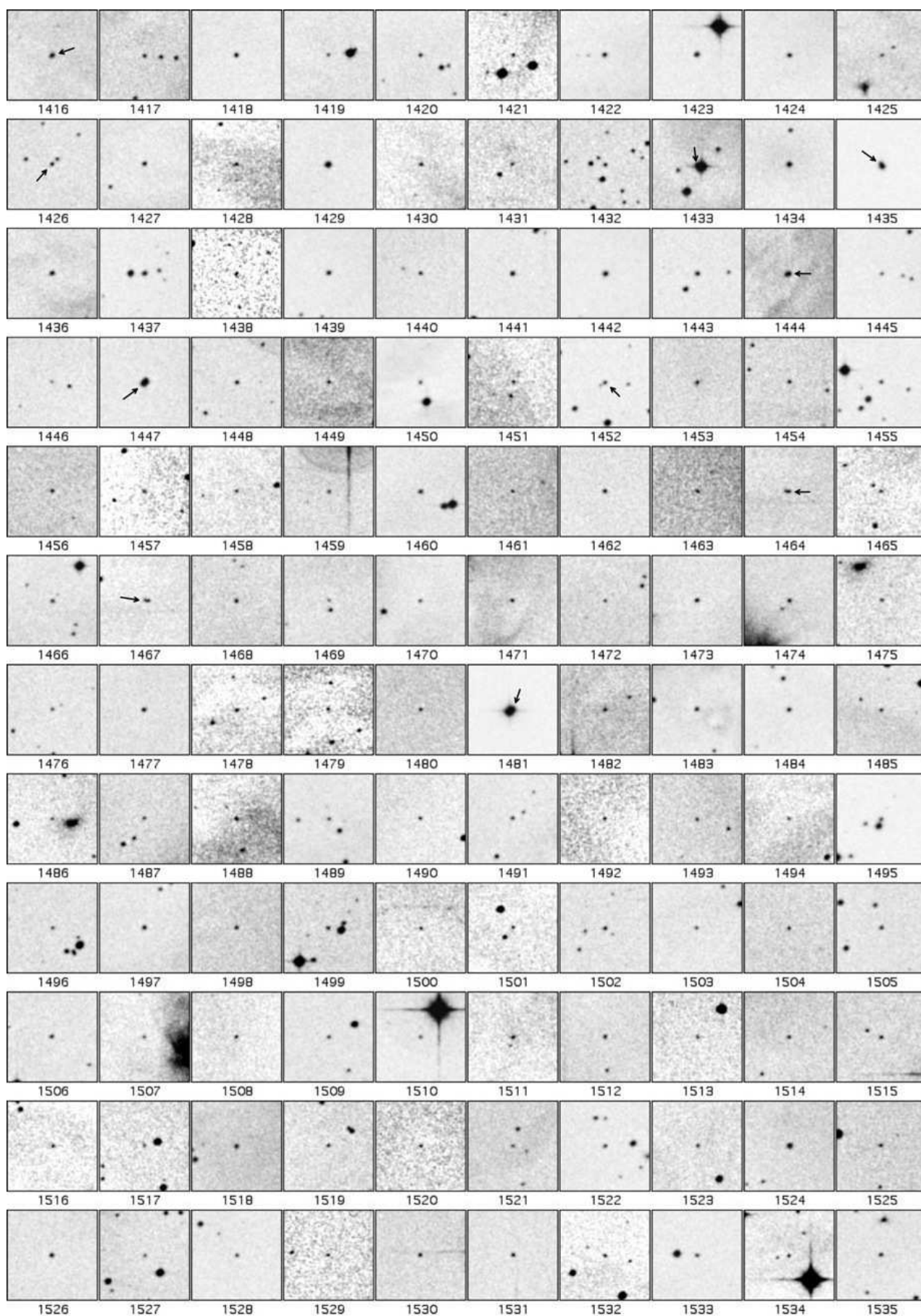


Fig. 15. Finding charts, 90'' to a side. North is up and east to the left.

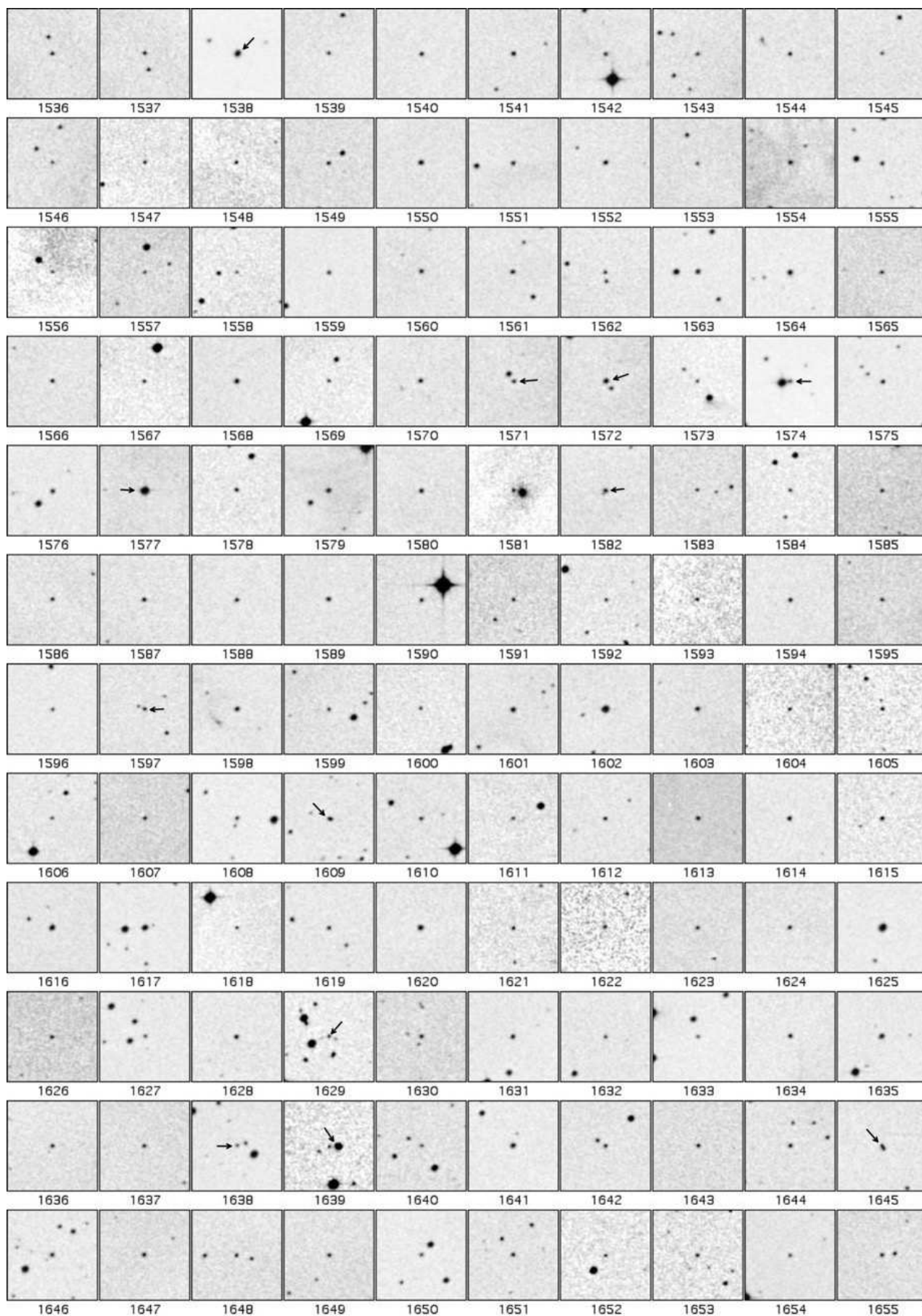


Fig. 16. Finding charts, 90'' to a side. North is up and east to the left.

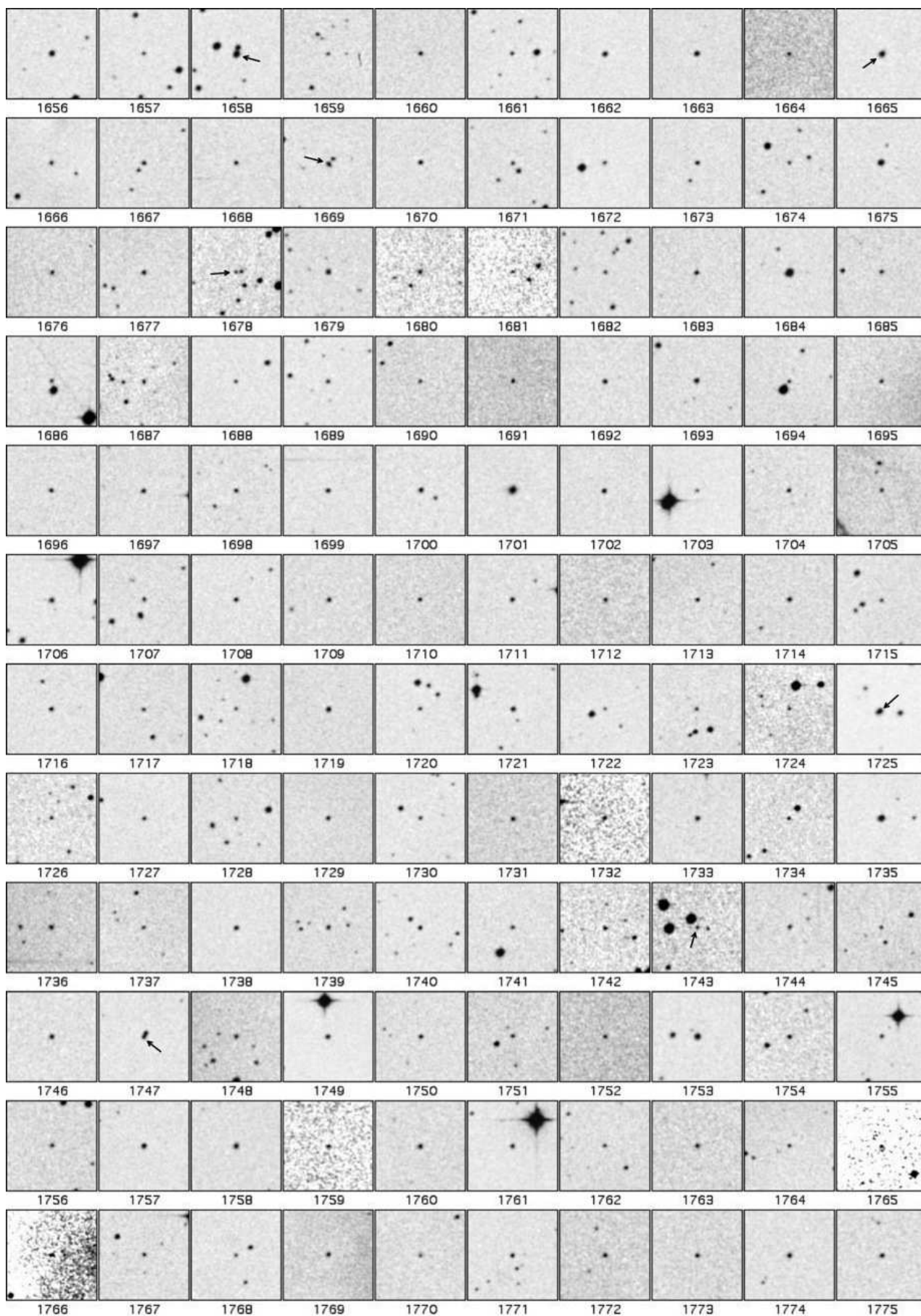


Fig. 17. Finding charts, 90'' to a side. North is up and east to the left.

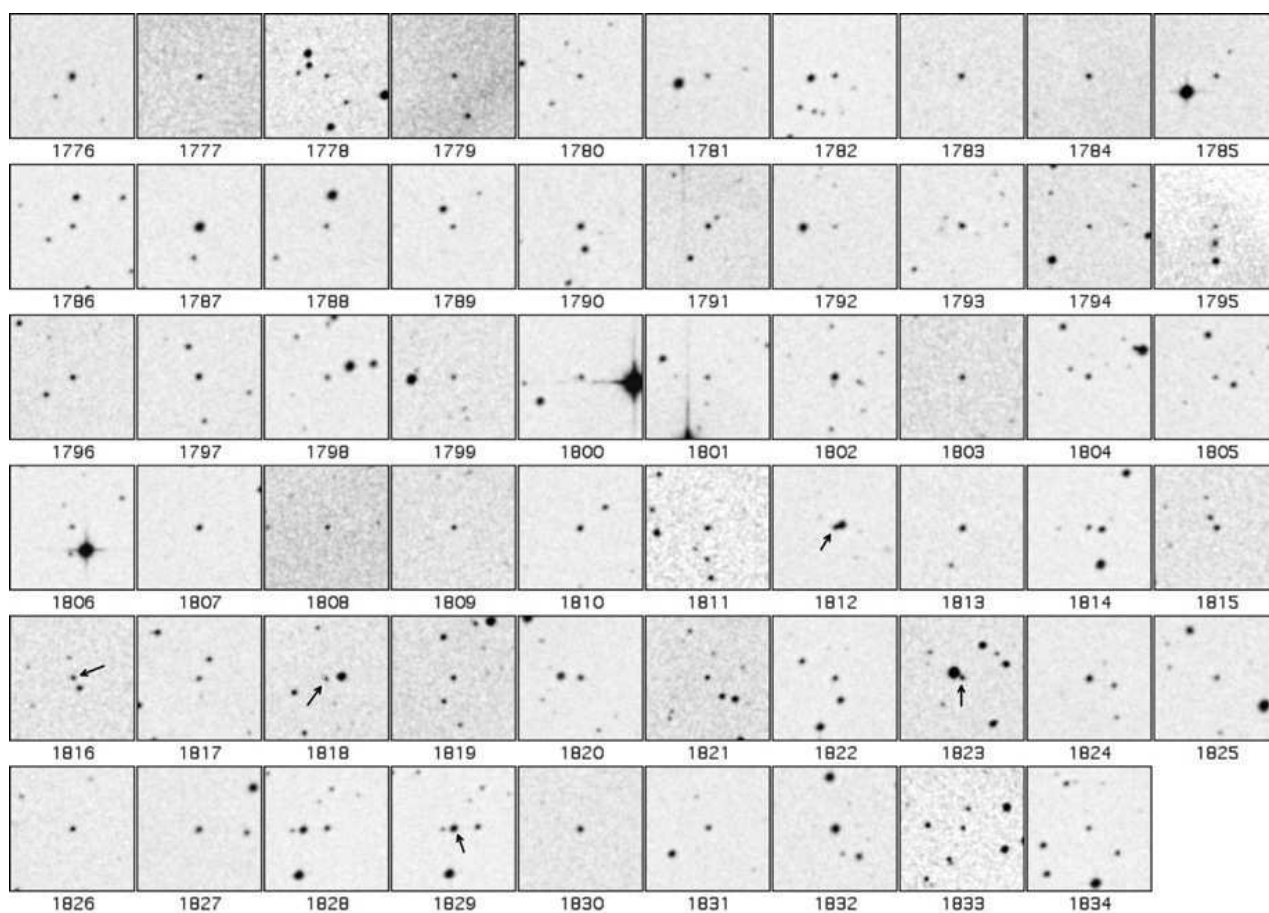


Fig. 18. Finding charts, 90'' to a side. North is up and east to the left.

Table 3. H α emission-line stars in M 42*

ESOHa	GCVS	KisoHa ^a	HBC ^b	Haro ^c	PaCh	Other ^d	$\alpha(2000)^e$	$\delta(2000)^e$	Ha ^f	m_J^g	m_F^g	m_N^g	J^h	H^h	K_s^h	Notes ⁱ
576							05 24 45.32	−04 03 40.3	1-2	18.65	16.94	14.90	13.49	12.84	12.56	
577							05 24 49.82	−03 59 02.4	1	18.86	16.83	14.75	13.66	12.98	12.73	
578							05 25 04.40	−06 50 16.1	2	15.93	14.26	12.94	11.93	11.26	11.04	
579							05 25 06.06	−06 50 03.4	2	18.82	17.01	14.92	13.75	13.08	12.84	
580							05 25 19.24	−07 21 33.3	3	18.87	16.84	14.55	13.40	12.74	12.45	
581							05 25 20.61	−06 05 06.1	4	18.48	16.91	14.80	13.19	12.55	12.20	
582							05 25 20.93	−05 19 30.3	1	17.64	16.24	14.14	12.82	12.21	11.94	
583							05 25 26.16	−03 43 30.9	2-3	18.79	16.87	14.62	13.32	12.66	12.37	
584							05 25 29.75	−02 41 11.1	2	17.20	15.21		12.75	12.08	11.83	
585							05 25 30.10	−03 45 46.7	3	20.09	17.54	15.60	13.85	13.29	12.97	
586							05 25 32.10	−06 04 38.6	1-2	18.74	16.73	14.64	13.25	12.68	12.43	
587							05 25 32.35	−07 37 56.0	3	18.28	16.61	14.65	13.52	12.85	12.57	
588							05 25 34.47	−06 59 00.6	1-2	18.43	16.79	14.41	13.28	12.63	12.39	
589							05 25 34.85	−07 33 01.5	2-3	19.18	17.35	15.41	14.08	13.45	13.15	
590							05 25 35.96	−02 54 48.9	3	17.51	15.95	13.77	13.45	12.95	12.57	1, 2
591							05 25 36.10	−02 54 48.0	2	17.51	15.95	13.77	13.45	12.95	12.57	2, 3
592							05 25 39.11	−03 52 59.9	2	17.81	16.06	14.21	13.26	12.61	12.34	
		75-86					05 25 39.80	−04 11 02.0	4	16.33	14.67	13.51	12.44	11.69	11.14	
593							05 25 40.69	−05 52 51.3	4		16.47	15.52				4
594							05 25 43.39	−07 11 10.6	1-2	19.44	17.19	15.32	14.01	13.34	13.11	
595							05 25 46.52	−04 22 45.8	2	19.04	16.90	15.11	13.83	13.20	12.94	
596							05 25 50.64	−07 38 26.3	2	19.00	17.10	14.92	13.77	13.19	12.87	
597							05 25 57.68	−06 05 07.3	2	18.27	16.27	14.18	13.04	12.42	12.16	
598							05 25 57.90	−04 47 53.4	4				14.40	13.89	13.57	
599							05 25 57.95	−06 55 49.4	1	17.94	16.10	14.35	13.39	12.75	12.49	
600							05 26 01.51	−04 18 29.1	4	20.02	17.64	15.62	14.00	13.40	13.05	
601							05 26 01.66	−02 39 25.3	1	16.82	15.54	13.36	12.55	11.96	11.70	
602							05 26 03.53	−06 55 08.4	2	17.64	15.70	13.66	12.48	11.82	11.57	
603							05 26 25.72	−05 28 50.4	3	19.47	17.35	14.92	14.34	13.69	13.42	5
604							05 26 27.92	−04 20 53.2	2	18.94	16.99	14.61	13.27	12.63	12.36	
605							05 26 36.72	−05 44 25.8	2-3	16.25	14.49	12.99	11.95	11.26	11.06	
606							05 26 38.10	−04 21 47.5	2	17.82	16.34	14.46	13.37	12.68	12.45	
607							05 26 42.40	−03 26 47.5	2	19.47	17.31	15.24	13.65	13.02	12.69	
608W+E							05 26 53.11	−05 59 05.6	2+3	17.30	15.41	13.28	12.42	11.75	11.42	6
609							05 26 55.38	−03 00 37.9	2	19.09	17.20	14.62	13.28	12.73	12.40	
610							05 26 58.65	−03 57 42.8	3	21.03	18.88	17.11	14.89	14.44	14.04	
611							05 27 01.01	−06 01 10.1	2-3	19.21	16.72	15.17	13.73	13.13	12.89	
612							05 27 03.38	−02 44 14.9	2	18.42	16.69	14.74	13.49	12.90	12.59	
613							05 27 03.96	−03 01 41.1	2	20.17	17.29	15.20	13.77	13.10	12.82	
614							05 27 10.11	−07 59 11.4	2	18.82	16.96	14.95	13.75	13.11	12.91	
		75-104		4-257	2		05 27 12.17	−06 59 54.9	3-4	17.14	15.68	13.79	12.65	11.84	11.33	
615							05 27 14.69	−05 16 30.1	3	16.46	15.89	14.04	12.72	11.77	11.03	
616							05 27 19.20	−07 50 42.4	1	19.17	17.26	15.18	13.70	13.12	12.83	
617							05 27 27.22	−02 55 13.2	3	18.85	16.80	14.84	13.53	12.92	12.59	
618							05 27 28.76	−03 36 49.4	1-2	18.93	16.90	15.26	14.13	13.49	13.26	
619							05 27 36.89	−04 10 49.4	1	19.00	17.18	14.56	13.43	12.82	12.51	
620							05 27 38.39	−04 57 03.0	3	19.26	17.29	15.46	14.08	13.44	13.21	
621							05 27 40.94	−06 27 00.7	3-4	21.31	18.41	17.40	14.55	14.01	13.70	
622							05 27 42.17	−06 26 57.7	3	18.97	16.87	14.54	12.94	12.34	12.08	
623							05 27 42.87	−04 06 52.6	2	19.52	17.40	15.76	14.56	13.91	13.69	
624							05 27 43.73	−05 00 57.0	2	19.41	17.17	15.27	13.88	13.30	13.03	
625							05 27 43.85	−04 05 23.0	1-2	17.69	16.13	13.91	12.70	12.03	11.76	
626							05 27 45.01	−07 19 22.4	2	17.99	16.14	13.77	12.98	12.36	12.08	
627							05 27 45.63	−03 35 47.3	2	18.06	16.38	14.35	12.91	12.31	12.06	
628							05 27 47.38	−07 51 48.8	3	19.41	17.62	15.35	13.84	13.24	12.96	
629							05 27 47.60	−06 50 09.8	2-3	17.43	16.00	13.97	12.85	12.19	11.95	
		75-111		4-258	3		05 27 48.22	−05 16 33.1	2-3	14.46	12.90	12.01	11.23	10.49	10.11	
630							05 27 54.29	−03 26 54.1	2	16.84	15.14	13.16	12.35	11.61	11.37	
631							05 27 56.90	−05 05 39.1	3	19.01	17.08	14.86	13.52	12.94	12.65	
632							05 27 57.90	−05 40 01.1	2-3	18.66	16.60	14.46	12.99	12.50	12.15	
633							05 27 59.93	−02 43 59.2	2	20.51	17.96	16.37	14.74	14.21	13.98	
634							05 28 01.38	−06 53 35.6	2	18.13	16.22	14.63	13.46	12.76	12.52	
635							05 28 11.79	−03 13 47.4	2	17.44	15.81	13.94	13.12	12.39	12.20	
636							05 28 13.20	−03 45 52.6	1	17.82	16.01	14.12	13.14	12.53	12.27	
637							05 28 16.49	−03 05 43.6	1	17.64	16.03	13.97	12.89	12.22	11.98	
		75-114		4-260	5		05 28 17.17	−07 37 05.4	3	15.74	14.15	12.50	11.56	10.66	10.12	
638							05 28 17.58	−03 22 51.1	1	16.41	14.74	13.10	12.07	11.37	11.15	
639							05 28 19.36	−04 10 09.7	2	18.17	16.34	14.31	13.03	12.36	12.12	
							05 28 19.42	−07 36 26.3	2	14.19	13.00	11.89	11.21	10.52	10.21	
640W+E							05 28 20.08	−04 52 03.0	4+1	18.89	17.28	15.50	14.92	14.29	13.89	7
641							05 28 21.47	−06 00 07.9	2	17.43	16.26	14.59	13.31	12.73	12.37	
642							05 28 21.99	−05 58 30.0	3-4	18.21	16.37	14.60	13.40	12.77	12.40	
		75-115		4-259	4		05 28 22.04	−06 25 56.0	4	14.88	13.88	14.02	11.63	10.76	10.29	
643							05 28 23.50	−03 35 58.3	2	17.45	15.45	14.29	13.36	12.71	12.47	
644							05 28 28.09	−03 23 56.4	3	18.86	17.14	15.34	14.06	13.43	13.20	
645							05 28 34.20	−02 45 57.9	3	19.65	17.96	15.74	13.99	13.38	13.03	
646							05 28 37.33	−07 37 55.8	3	18.52	16.79	14.63	13.22	12.60	12.30	
647							05 28 40.77	−03 54 51.9	2-3	18.93	17.05	15.30	13.81	13.18	12.89	
648							05 28 41.11	−07 17 38.9	4	17.76	16.59	15.53	13.85	13.22	12.70	
649							05 28 54.82	−04 51 48.3	2	19.08	17.23	15.03	13.52	12.90	12.62	
650							05 28 54.95	−03 23 32.4	1	18.17	16.48	14.64	13.55	12.92	12.60	
651							05 28 56.50	−06 05 16.6	2	18.11	16.45	14.39	13.10	12.47	12.22	
652							05 28 59.08	−04 52 57.8	1	20.24	17.71	15.85	14.32	13.70	13.47	
653							05 29 02.39	−03 03 15.3	2	18.32	16.70	14.41	13.28	12.64	12.37	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
654							05 29 07.75	-06 10 08.0	1	17.43	15.88	14.23	13.05	12.40	12.16	
655							05 29 08.59	-06 35 06.2	2	18.26	16.63	14.77	13.62	12.99	12.66	
656							05 29 10.37	-07 42 24.9	2	14.64	13.64	12.08	12.77	12.00	11.76	8
657							05 29 15.35	-03 30 51.7	3	16.20	15.36	14.37	12.54	11.57	11.06	
658							05 29 15.55	-03 17 34.8	1	17.72	16.06	14.03	12.74	12.13	11.88	
659							05 29 15.58	-07 41 01.2	1	18.82	17.14	15.18	13.83	13.17	12.93	
660							05 29 16.46	-03 25 44.5	2	18.74	16.54	14.88	13.49	12.86	12.59	
661							05 29 18.22	-04 57 34.9	1-2	17.70	15.72	14.19	12.96	12.10	11.78	
662							05 29 18.53	-03 07 46.5	1	18.82	16.87	14.74	13.47	12.88	12.60	
663							05 29 19.02	-02 41 47.2	2	19.85	17.57	15.63	14.16	13.49	13.28	
664							05 29 19.21	-03 53 47.2	2	20.53	17.71	15.73	13.83	13.26	12.89	
665							05 29 20.02	-04 19 00.1	3	20.36	18.01	16.04	14.43	13.80	13.51	
666							05 29 21.01	-04 22 23.0	1	18.97	16.89	14.85	13.49	12.92	12.63	
667							05 29 22.21	-07 23 48.8	2	17.33	14.86		12.37	11.71	11.40	
668							05 29 23.36	-04 30 56.4	4	14.53	12.90	11.58	10.81	10.06	9.77	9
669							05 29 24.53	-07 22 21.9	1-2	17.72	16.14	14.10	13.07	12.38	12.17	
670							05 29 24.68	-07 17 50.4	2	17.67	16.39	14.53	13.51	12.83	12.59	
		75-125		4-264	10		05 29 28.49	-07 46 37.0	4	17.43	16.89	15.32	13.85	12.77	11.88	
671							05 29 30.61	-03 30 06.4	2	18.89	16.83	14.79	13.60	13.00	12.71	
672							05 29 30.69	-07 01 53.8	2	17.78	16.10	13.90	13.04	12.41	12.16	
673							05 29 30.75	-06 52 21.2	2	18.64	16.80	14.74	13.36	12.79	12.49	
674							05 29 31.69	-05 31 51.5	2-3	17.45	15.63	13.86	12.79	12.18	11.96	
675							05 29 32.39	-07 47 45.7	1	18.43	16.73	14.65	13.46	12.80	12.55	
676							05 29 35.83	-06 29 22.9	3	16.44	14.42	12.06	11.48	10.48	9.82	
677							05 29 35.97	-03 20 29.3	2-3	19.47	17.54	15.76	14.24	13.53	13.27	
678							05 29 47.94	-04 31 18.2	2	18.74	16.77	15.15	14.08	13.46	13.24	
679							05 29 48.37	-07 30 17.3	2	17.06	15.47	14.03	12.42	11.74	11.49	
680							05 29 52.09	-05 40 43.7	2	18.78	16.88	15.15	13.45	12.86	12.56	
681							05 29 52.78	-03 33 39.2	1			15.96	14.11	13.54	13.22	
682							05 29 53.26	-05 38 15.4	3	19.41	17.33	15.90	14.59	14.01	13.64	
683							05 29 56.34	-07 57 44.4	5	20.93	19.09	17.60	15.30	14.71	14.37	
684							05 30 01.13	-06 19 15.0	1-2	18.57	16.58	14.93	13.29	12.69	12.44	
685							05 30 04.33	-06 38 14.5	1-2	17.32	15.87	13.95	12.67	12.02	11.78	
686							05 30 06.35	-04 26 55.0	2	18.59	16.08	14.64	13.36	12.81	12.54	
687							05 30 10.10	-06 00 42.7	2	19.20	17.36	15.84	14.23	13.67	13.45	
688							05 30 15.76	-06 56 39.3	2	18.85	16.86	15.98	14.71	14.21	14.02	
689							05 30 17.29	-04 18 10.5	1	19.43	16.84	15.80	14.10	13.50	13.24	
690							05 30 19.96	-04 12 56.5	2	19.11	16.90	15.31	13.75	13.15	12.89	
691							05 30 25.17	-06 51 24.6	2	18.59	16.36	15.16	13.42	12.84	12.55	
692							05 30 26.13	-06 56 59.7	2-3	18.98	17.17	15.54	13.65	13.03	12.74	
693							05 30 27.87	-07 03 47.4	3	20.14	17.78	16.25	14.06	13.48	13.19	
694							05 30 29.02	-03 56 42.9	4	18.89	17.52	16.74	14.72	14.10	13.60	
695							05 30 31.42	-06 25 35.5	1	18.39	16.31	15.02	13.21	12.53	12.32	
696							05 30 33.52	-02 51 28.2	1	19.01	16.92	15.28	13.48	12.97	12.67	
697							05 30 35.59	-04 05 01.5	2	18.61	16.80	15.23	13.57	12.91	12.67	
698							05 30 36.60	-04 37 38.5	1	19.04	16.71	15.35	13.60	12.95	12.70	
699							05 30 36.74	-02 51 30.9	1	19.50	17.26	15.49	13.67	13.12	12.83	
	V538	75-137			13		05 30 38.41	-05 25 43.6	3	15.57	14.40	13.57	12.09	11.40	11.10	
700							05 30 41.65	-04 53 54.7	1		16.48	15.14	13.67	13.02	12.77	
		75-139					05 30 41.83	-06 34 33.1	2	17.46	15.51	13.83	11.86	11.14	10.89	
701							05 30 42.11	-06 26 03.5	4	19.19	16.94	16.01	14.30	13.69	13.36	
702							05 30 42.64	-04 56 27.4	2	17.07	15.49	13.57	12.20	11.54	11.31	
703							05 30 43.11	-04 15 54.3	4	20.52	18.12	17.54	14.86	13.87	13.34	
704							05 30 44.16	-05 20 25.4	2	18.07	16.03	14.71	13.13	12.51	12.22	
705							05 30 45.50	-07 30 15.5	2	17.68	16.82	17.33	16.41	15.96		
		75-140		4-267	14		05 30 45.97	-07 24 58.1	3-4	17.45	15.69	14.55	12.82	12.04	11.70	
706							05 30 55.86	-07 22 06.7	1	18.84	17.00	15.42	13.43	12.86	12.56	
707							05 31 01.31	-05 00 45.6	1	18.94	17.17	15.68	13.94	13.33	13.11	
708							05 31 06.39	-03 22 31.7	1	16.47	14.57	13.23	12.17	11.47	11.28	
		75-142		4-269	16		05 31 09.40	-06 52 16.7	3	14.55	13.77	12.47	12.07	11.26	10.86	
709							05 31 12.75	-03 12 11.0	1	18.83	17.44	15.99	14.23	13.60	13.34	
710							05 31 22.33	-04 59 27.6	1-2	18.40	16.49	15.06	13.42	12.82	12.57	
711							05 31 23.26	-04 37 19.7	3	18.96	16.76	15.22	13.72	13.05	12.78	
712							05 31 24.10	-06 43 05.5	1-2				13.35	12.70	12.44	
713							05 31 25.13	-04 37 58.7	3	20.09	17.56	15.91	13.80	13.21	12.89	
		75-145					05 31 27.09	-04 27 59.4	3	17.51	14.96	14.54	13.08	11.09	9.43	
714							05 31 30.09	-06 38 58.3	3	17.48	15.67	14.84	13.39	12.42	11.84	
715							05 31 30.97	-06 15 14.4	4	17.95	15.83	16.14	14.32	13.68	13.22	
716							05 31 31.02	-03 12 31.8	2-3	20.90	18.44	17.21	14.84	14.17	13.76	
		75-146		4-270	17		05 31 31.05	-06 08 41.7	4	16.56	15.52	14.70	12.86	12.03	11.49	
717							05 31 31.39	-07 28 04.1	4	20.95	18.34	16.26	14.41	13.81	13.44	
718							05 31 35.58	-02 51 12.1	1	19.36	16.99	15.70	14.05	13.40	13.13	
719							05 31 38.41	-03 39 44.9	2	20.05	17.69	16.39	14.67	14.06	13.79	
720							05 31 46.64	-07 16 30.2	2	15.68	14.42	13.57	12.12	11.39	11.05	
721							05 31 50.30	-03 03 55.8	1	17.94	16.15	14.64	13.17	12.50	12.26	
722							05 31 51.71	-05 23 08.2	3	18.45	14.39	13.69	12.01	10.49	9.71	10
723							05 31 51.91	-05 41 59.6	2	17.49	15.53	14.19	12.81	12.10	11.76	
724							05 31 54.34	-03 13 35.2	4	18.66	17.27	15.38	13.31	12.65	12.18	
725							05 31 55.06	-04 22 53.0	3	17.83	15.90	14.11	12.44	11.85	11.55	
		76-9					05 31 58.24	-04 06 41.7	4	18.87	17.30	15.73	13.84	13.12	12.69	
726							05 31 58.34	-04 26 20.8	1-2	18.80	16.82	15.38	13.48	12.90	12.60	
727							05 31 58.80	-05 56 40.6	2	18.01	16.10	14.65	12.89	12.27	12.00	
728							05 32 00.92	-07 45 17.1	1-2	19.00	16.91	14.54	12.87	12.15	11.91	
729							05 32 01.29	-05 32 00.6	1	19.59	17.10	16.10	14.23	13.65	13.30	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
730							05 32 01.92	-04 53 54.8	3	17.97	16.03	14.70	13.13	12.45	12.27	
731							05 32 02.33	-05 23 37.3	3			13.75	13.30	12.63	12.39	
732							05 32 04.56	-07 47 56.9	1	21.16	18.48	15.44	13.65	13.01	12.78	
733							05 32 04.92	-05 37 43.1	1-2	18.59	16.82	15.71	13.94	13.33	13.11	
734							05 32 05.22	-05 30 04.6	1	19.46	17.34	16.04	14.14	13.48	13.33	
735							05 32 05.29	-06 51 53.1	3	17.64	16.03	14.19	12.50	11.93	11.65	
736							05 32 05.60	-04 56 08.3	4-5	20.69	18.63	16.83	14.57	14.04	13.67	
737							05 32 05.96	-03 01 15.9	1	16.33	14.49	12.40	10.58	9.99	9.69	
	V695	76-10			19		05 32 06.22	-04 56 09.9	3	16.95	15.14	14.00	12.71	12.01	11.73	
738							05 32 06.59	-06 58 07.4	1	18.17	16.36	14.63	12.97	12.36	12.10	
	V540	75-154		4-277	25		05 32 07.78	-06 55 36.8	3	15.44	14.73	14.13	12.46	11.53	11.03	
	HP	75-153		4-273	21		05 32 08.95	-05 02 31.9	1	16.20	14.36	12.99	11.41	10.64	10.40	
739							05 32 09.19	-04 38 11.7	1	18.39	16.51	15.62	14.32	13.66	13.45	
740							05 32 10.00	-07 27 30.2	3	18.47	17.51	17.45	16.03	15.25	14.29	
741							05 32 10.80	-04 55 36.0	1	17.24	15.58	14.58	13.13	12.42	12.20	
		75-156		4-274	22		05 32 10.80	-05 19 35.1	3	16.66	15.22	14.10	12.63	11.96	11.70	
		76-15					05 32 11.41	-05 37 44.1	3	20.08	15.83	15.13	13.12	12.02	11.30	
742							05 32 11.93	-04 43 16.2	2	19.57	17.46	16.01	14.16	13.56	13.37	
743							05 32 12.63	-06 12 34.6	1-2	19.86	17.30	15.90	13.96	13.35	13.10	
744							05 32 12.89	-03 15 14.8	1	16.70	14.93	13.75	12.47	11.72	11.55	
		75-158		4-278	26		05 32 14.84	-06 20 54.8	4	16.20	14.68	13.56	12.43	11.78	11.50	
		75-157					05 32 15.13	-05 35 00.4	1-2	15.77	14.43	13.15	11.75	11.06	10.66	
		76-19		4-279	27		05 32 18.75	-05 13 39.0	4	17.74	15.89	14.99	13.20	12.39	11.80	
		75-159		4-282	30		05 32 19.87	-05 36 54.1	3-4	16.93	15.04	13.91	12.25	11.26	10.84	
745							05 32 23.93	-04 18 50.9	1	18.50	17.18	15.38	13.54	12.91	12.62	
		75-160					05 32 24.02	-05 05 23.6	2	15.63	13.59	12.23	10.84	9.96	9.56	
746							05 32 24.54	-05 03 17.1	3	19.68	17.00	15.57	13.63	13.06	12.81	
		75-163		4-281	29		05 32 24.99	-07 40 51.3	3	17.17	15.53	13.32	12.01	11.32	11.14	
747							05 32 25.01	-05 10 14.4	3	19.43	17.19	15.45	13.57	12.99	12.69	
748							05 32 25.11	-03 08 49.7	4	18.58	16.94	15.19	13.27	12.67	12.31	
749							05 32 25.17	-04 37 04.9	3	18.66	17.15	15.42	13.48	12.89	12.54	
		75-161		4-280	28		05 32 25.67	-03 43 13.7	3	15.16	13.47	12.99	12.03	11.28	10.94	
750							05 32 25.68	-04 38 58.4	2	19.10	17.16	15.55	13.66	13.13	12.80	
751							05 32 25.82	-07 17 29.6	2	16.71	17.03	15.14	13.20	12.57	12.34	
752							05 32 26.87	-05 16 06.7	4-5	19.80	17.48	17.26	14.65	13.96	13.41	
753							05 32 31.17	-05 10 58.1	4	20.32	17.34	16.25	13.99	13.45	13.17	11
754							05 32 31.58	-03 11 43.5	3	18.01	16.13	14.64	13.12	12.48	12.14	
		75-165		4-284	32		05 32 33.00	-06 08 53.9	4	19.82	17.07	15.96	13.98	13.39	13.07	
755							05 32 34.03	-05 14 15.8	1-2	18.31	16.46	14.79	13.24	12.62	12.38	
756							05 32 35.13	-05 37 17.2	1	19.98	17.51	15.30	12.96	12.11	11.70	
757							05 32 36.62	-04 41 36.4	3	17.91	16.04	14.88	13.13	12.42	12.02	
758							05 32 36.76	-05 06 15.1	3-4	20.13	17.52	15.81	14.04	13.40	13.11	
759							05 32 36.77	-06 45 18.3	2-3	16.78	15.29	14.06	12.56	11.86	11.66	
		76-28					05 32 48.47	-04 41 43.5	1			12.65	11.94	11.73		
760							05 32 41.70	-05 05 53.7	1	18.42	16.87	15.49	14.18	13.56	13.37	
761							05 32 42.55	-06 01 25.8	1-2	18.32	16.18	14.99	13.40	12.77	12.53	
762							05 32 42.94	-06 36 38.4	2	17.49	16.04	14.22	12.76	12.11	11.81	
763							05 32 42.99	-02 58 27.3	3	20.42	18.22	16.25	13.87	13.15	12.86	
764							05 32 43.07	-03 34 07.3	3	17.76			13.34	12.71	12.44	
		75-168		4-145	33		05 32 43.42	-05 35 57.2	4	16.83	14.42	13.13	11.89	10.90	10.41	
765							05 32 44.54	-05 24 15.2	3	19.93	17.68	16.37	14.31	13.65	13.27	
		75-170		4-285	34		05 32 44.65	-05 53 24.1	1	16.90	15.22	14.23	12.89	12.27	12.06	
766							05 32 44.89	-06 34 09.0	3	18.44	16.84	15.07	13.10	12.50	12.23	
		75-171		4-286	35		05 32 45.33	-05 38 14.9	1-2	16.58	14.60	13.45	11.81	11.00	10.68	
767							05 32 45.74	-04 12 13.4	4-5		19.86	18.15	15.63	15.17	14.80	
	UZ	76-29		4-155	36		05 32 47.32	-05 39 42.7	3	16.18	15.58	13.61	12.36	11.63	11.43	
768							05 32 47.92	-04 40 49.9	1-2	18.68	16.33	15.34	13.43	12.84	12.59	
769							05 32 48.82	-05 30 54.3	3	21.54	18.54	16.89	14.03	12.62	11.72	
				4-287	37		05 32 49.93	-06 10 45.6	4	18.67	16.92	15.84	14.11	13.45	13.15	
770							05 32 50.25	-04 26 35.0	2	18.53	16.54	14.96	13.49	12.84	12.62	
771							05 32 50.30	-06 45 24.2	1-2	17.81	16.15	14.27	12.83	12.26	11.97	
772							05 32 50.53	-05 36 12.0	1-2	18.70	16.68	15.23	13.66	13.11	12.90	
773							05 32 50.88	-07 29 07.7	2	20.36	18.10	15.14	13.24	12.63	12.32	
774							05 32 51.26	-03 40 36.4	3	18.82	16.85	15.42	13.47	12.87	12.51	
775							05 32 51.87	-07 40 30.0	2	19.90	18.01	16.38	14.65	13.96	13.71	
776							05 32 52.39	-06 50 22.1	2	18.43	16.68	14.87	13.15	12.52	12.30	
777							05 32 52.57	-04 11 43.7	2	20.06	17.63	16.09	13.80	13.28	12.91	
778							05 32 53.52	-06 06 01.1	2	18.20	16.21	14.86	13.15	12.50	12.26	
779							05 32 54.29	-04 56 05.6	2	20.03	17.40	16.43	14.48	13.85	13.52	
780							05 32 54.91	-05 32 08.1	3-4	20.13	18.32	17.03	15.15	14.44	14.27	
781							05 32 55.17	-07 18 03.3	2	18.04	16.16	14.54	12.63	12.00	11.71	
782							05 32 55.78	-05 37 02.2	2	17.83	16.30	14.54	12.92	12.29	11.98	
783							05 32 56.30	-06 03 18.9	1	16.75	15.27	14.35	13.04	12.40	12.23	
784							05 32 56.43	-07 17 44.1	2	19.36	17.20	15.32	13.61	12.98	12.71	
785							05 32 56.51	-05 34 20.7	2	18.04	16.96	15.39	13.65	13.07	12.78	
786							05 32 56.90	-05 12 47.7	4	16.44	14.93	14.14	12.57	11.62	11.15	
787							05 32 57.01	-05 48 56.1	3	19.01	17.39	15.57	13.55	12.90	12.65	
788							05 32 57.29	-07 18 14.3	2	20.30	17.81	15.19	13.28	12.73	12.44	
		75-175					05 32 57.92	-06 02 42.9	1	17.11	15.54	14.43	12.98	12.32	12.12	
789							05 33 00.83	-06 27 24.6	2	18.09	16.43	14.94	13.30	12.65	12.42	
	HS	75-176	98	4-46	39		05 33 01.75	-04 49 18.5	4	16.53	15.50	14.34	13.37	12.38	11.52	
	V466	75-177	100	4-124	40		05 33 02.24	-05 26 25.2	2	12.29	11.85	11.20	10.36	9.70	9.23	
790							05 33 02.29	-05 42 31.0	4	20.76		16.20	14.65	13.93	13.55	
791							05 33 02.39	-04 55 27.9	3	19.73	17.52	15.89	13.99	13.43	13.12	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
792							05 33 03.30	-06 51 37.8	2	18.26	16.50	14.72	13.07	12.44	12.19	
793							05 33 03.35	-06 37 32.8	2	17.68	15.88	14.32	12.85	12.27	11.98	
		75-178					05 33 04.59	-04 59 45.7	2	15.83	14.35	13.41	12.31	11.61	11.43	
794							05 33 04.87	-07 34 14.4	3	19.47	17.74	15.65	13.50	12.85	12.53	
795							05 33 05.28	-06 25 15.7	1	17.56	15.99	14.27	12.71	12.05	11.82	
796							05 33 05.64	-07 30 39.1	1	21.20	19.02	15.29	13.73	13.04	12.83	
797							05 33 06.39	-07 51 45.8	2	18.64	17.33	15.44	13.48	12.84	12.63	
798							05 33 06.55	-06 43 32.9	2	16.33		13.12	12.42	11.78	11.49	
799							05 33 09.86	-04 59 48.4	4	20.77	18.83	16.76	14.30	13.83	13.44	
	V384	76-34	101	4-168	43		05 33 10.53	-05 42 24.5	2	15.52	14.38	13.11	11.81	11.03	10.72	
800							05 33 11.09	-04 28 55.3	1	17.43	15.25	13.74	13.91	13.38	13.11	
801							05 33 13.07	-07 05 07.1	2	18.82	16.81	15.17	13.36	12.73	12.44	
802							05 33 13.45	-04 51 32.8	2	16.24	14.88	13.35	12.19	11.52	11.35	
803							05 33 14.36	-05 13 40.4	1	17.78	15.89	14.10	12.81	12.09	11.90	
804							05 33 14.83	-06 06 35.8	3	16.95	19.32	17.86	13.33	12.71	12.47	
805							05 33 14.92	-05 30 33.6	1	17.99	17.43	14.25	12.70	12.08	11.81	
806							05 33 14.99	-07 16 48.2	1	19.92	17.54	14.72	13.24	12.64	12.32	
807							05 33 16.95	-05 43 33.1	3	19.94	18.08	16.04	14.00	13.41	13.05	
808							05 33 17.96	-05 21 38.6	2	18.45	17.24	14.78	13.18	12.56	12.32	
		76-35					05 33 18.14	-04 22 43.3	3	17.14	15.38	14.15	12.93	12.22	11.96	
809							05 33 18.39	-06 52 16.2	2	18.20	16.59	15.03	13.66	12.98	12.64	
810							05 33 19.80	-06 04 23.3	3	16.88	15.25	14.09	12.72	12.01	11.83	
811							05 33 20.04	-05 43 30.7	2	19.14	18.16	15.08	13.68	13.05	12.78	
812							05 33 20.22	-03 18 10.0	2	18.07		15.37	13.93	13.32	13.04	
	V542	76-40		4-223	48		05 33 20.99	-06 22 33.4	4	16.07	15.19	15.42	12.58	11.65	11.02	
813							05 33 21.26	-06 01 10.6	3	19.76	17.68	15.66	13.73	13.17	12.89	
	VW	76-38		4-116	46		05 33 21.37	-05 21 34.7	2-3	17.12	14.30	12.67	11.25	10.33	9.77	
814							05 33 22.49	-05 23 03.1	2	17.26	16.16	14.59	13.07	12.34	12.19	
815							05 33 23.03	-04 41 01.2	2	17.94	16.03	14.56	13.01	12.34	12.08	
816							05 33 23.18	-04 20 29.6	1	17.63	16.19	14.40	12.89	12.27	12.02	
817							05 33 23.30	-05 54 28.2	1	17.49	15.92	14.75	13.23	12.59	12.34	
818							05 33 23.45	-04 32 50.6	2	17.85	16.30	14.69	12.84	12.21	11.96	
819							05 33 23.49	-04 42 34.4	3	19.42	17.61	15.49	13.38	12.79	12.45	
820							05 33 24.04	-04 40 56.1	2	18.42	16.66	15.28	13.39	12.74	12.46	
821							05 33 24.81	-04 54 11.3	4-5	21.00	17.66	17.86	15.29	14.07	13.16	
822							05 33 25.04	-04 23 20.2	2	17.07	15.63	14.28	13.03	12.33	12.14	
		76-41		4-202	49		05 33 25.53	-06 06 34.5	4	17.81	16.31	15.46	12.92	11.84	11.03	
823							05 33 26.81	-05 07 13.3	4	20.06	17.85	18.45		16.08	15.51	
824							05 33 28.19	-05 04 46.7	1-2	18.09	16.62	14.89	13.19	12.57	12.30	
	V719	76-42		4-108	51		05 33 28.52	-05 17 26.3	2-3		15.13	13.39	11.92	11.14	10.80	
825							05 33 30.21	-06 04 09.6	2	16.18	14.67	13.87	12.26	11.58	11.36	
826							05 33 31.05	-04 20 43.6	2	19.53	17.40	15.75	14.14	13.49	13.19	
827							05 33 31.20	-05 29 57.7	3		19.34	15.26	13.45	12.76	12.44	
828							05 33 31.49	-06 09 54.2	2-3	18.07	16.41	14.66	12.75	12.03	11.67	
829							05 33 31.98	-05 14 40.7	2	13.29	17.17	15.32	13.54	12.92	12.68	
830							05 33 32.55	-06 06 47.7	2	17.33	15.68	14.19	12.45	11.86	11.58	
	SS	76-48		4-217	61		05 33 33.02	-06 18 37.6	4	16.41	14.76	12.69	12.55	11.40	10.73	
	RZ	76-45		4-97	55		05 33 33.05	-05 11 55.5	3-4	16.92	16.54	14.43	12.57	11.77	11.35	
831							05 33 33.88	-06 33 19.2	2	17.71	16.02	14.73	13.23	12.58	12.27	
832						*	05 33 33.90	-05 33 26.4	2		17.00	13.82	12.21	11.36	10.96	
	VX	75-183	103	4-30	53		05 33 34.26	-04 43 45.8	3	15.58	13.97	13.36	11.42	10.59	10.12	11
	BS	75-184		4-31	54		05 33 34.30	-04 44 18.1	1-2	15.33	14.22	12.89	11.43	10.76	10.52	
833							05 33 34.40	-06 13 52.7	2	16.75	14.99	13.99	12.72	11.98	11.78	
834						*	05 33 34.44	-05 14 17.7	1		15.97	13.83	12.48	11.73	11.36	
	VY	76-50	104	4-71	59		05 33 35.89	-05 01 32.5	4	16.31	14.35	13.00	11.72	10.89	10.38	
835							05 33 36.44	-04 49 49.0	2	18.10	16.44	14.95	12.98	12.36	12.12	
836						*	05 33 37.05	-05 23 07.0	2	18.90	17.25	14.01	12.60	11.83	11.65	
837							05 33 37.44	-04 10 15.9	2	18.10	16.20	14.79	13.28	12.59	12.30	
838							05 33 37.44	-06 54 21.2	2	17.21	15.44	14.32	12.71	11.98	11.78	
839							05 33 38.16	-04 12 31.5	1				12.08	11.40	11.15	
840							05 33 38.26	-07 18 15.2	2	19.12	16.99	13.91	12.42	11.84	11.56	
		76-51		4-98	62		05 33 38.56	-05 13 12.5	3	19.62	17.11	14.64	12.81	12.04	11.70	
841							05 33 38.84	-06 32 43.3	2	18.57	16.25	15.19	13.48	12.85	12.64	
842							05 33 39.17	-04 38 07.3	1	18.50	16.73	15.14	13.39	12.70	12.49	
843							05 33 39.77	-06 06 03.1	3	19.17	17.26	15.62	13.38	12.77	12.43	
844							05 33 40.44	-03 03 24.4	3	19.28	17.53	16.20	14.15	13.57	13.26	
845							05 33 40.68	-05 00 46.4	1				12.52	11.82	11.59	
846							05 33 41.59	-04 55 59.9	1	18.70	16.69	15.12	13.16	12.51	12.26	
847							05 33 41.61	-06 06 07.4	4	19.19	17.08	15.81	14.50	13.55	12.80	
		76-52		4-121	63		05 33 41.68	-05 24 04.3	3	18.14	18.16	13.96	12.60	11.81	11.51	
				4-298	66		05 33 41.94	-06 15 48.9	4	18.04	16.59	15.76	14.08	13.32	12.88	
848						*	05 33 42.32	-05 08 47.3	3	19.57	17.60	15.85	13.97	13.35	13.09	
849							05 33 42.95	-04 55 43.5	1-2	17.04	15.19	14.03	12.40	11.69	11.47	
850							05 33 43.19	-04 47 14.3	4	17.04			13.32	12.52	12.13	
851							05 33 43.93	-06 13 46.3	5	20.33	17.79	18.75	16.66	15.98	14.97	
	V729	76-53		4-101	67		05 33 44.79	-05 14 09.9	2	16.07	14.05	12.01	10.75	10.01	9.65	12
852						*	05 33 44.87	-05 11 56.2	2		18.56	16.32	13.83	13.20	12.93	
853							05 33 45.00	-07 16 27.2	1	21.61	18.81	15.49	13.51	12.92	12.61	
	VZ	76-54	106	4-131	69		05 33 45.26	-05 30 49.9	3	16.40		11.99	10.26	9.26	8.61	
	ST	76-58		4-238	76		05 33 45.36	-06 40 34.9	4	17.50	19.05	16.32	14.88	14.30	13.66	
	V1006	76-56	108	4-201	71		05 33 45.38	-06 04 25.4	4	15.20	13.89	12.93	11.48	10.75	10.32	2,13
		76-55					05 33 45.45	-05 36 32.4	3	18.88	16.88	14.53	12.08	11.35	11.00	
854							05 33 45.58	-05 00 40.8	2	16.21	14.95	13.00	12.03	11.28	11.10	
855							05 33 46.25	-06 13 04.8	2	18.93	16.98	15.36	13.51	12.90	12.61	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
		76-60	109		74		05 33 46.48	-05 57 12.8	1-2	12.17	11.74	10.98	10.29	9.61	9.20	14
		76-57		4-118	68		05 33 46.69	-05 23 25.6	4			14.90	13.76	12.36	11.22	
856						*	05 33 47.65	-05 25 48.6	1				12.57	11.90	11.58	
	V731	76-59		4-48	70		05 33 47.71	-04 52 08.5	2	16.05	14.54	13.01	11.64	11.03	10.73	
		76-61		4-99	73		05 33 48.22	-05 13 26.2	3	18.36	16.50	14.90	12.99	12.14	11.71	
857						*	05 33 48.34	-05 22 39.4	1			13.96	12.70	11.99	11.72	
858							05 33 48.51	-07 13 59.3	2	12.63	18.72	15.83	13.81	13.20	12.91	
	V354	76-63		4-300	78		05 33 49.54	-05 36 20.8	2			15.15	12.37	11.32	10.71	
	HX	75-186		4-18	75		05 33 50.27	-04 38 34.2	3	14.61	13.35	12.30	11.21	10.52	10.29	11
859						*	05 33 50.74	-05 00 39.5	2	18.01	16.59	14.91	13.18	12.42	12.12	
							05 33 51.35	-04 48 22.2	1-2	16.26	14.68	13.64	12.48	11.61	11.27	
	HY	76-64		4-39	77		05 33 52.36	-05 41 50.2	1	15.60	14.52	12.82	11.72	10.90	10.56	
860		76-66		4-159	81		05 33 52.62	-04 57 51.0	3	18.67	16.91	15.43	13.37	12.74	12.46	
861							05 33 53.38	-07 14 11.6	2	17.58	16.41	13.81	12.88	12.30	12.06	2,8
862							05 33 53.41	-06 17 10.2	1	17.69	16.25	14.69	13.10	12.41	12.21	
863							05 33 54.14	-05 03 40.2	1	17.55	16.27	14.56	12.79	12.17	11.87	
864						*	05 33 54.38	-05 45 12.7	3-4			16.55	13.93	13.05	12.62	
865							05 33 54.59	-06 21 18.7	1	19.21	17.25	15.44	13.53	12.94	12.69	
		75-187		4-3	79		05 33 54.76	-04 16 27.2	1-2	14.89	13.31	12.18	11.19	10.54	10.32	13
866							05 33 54.83	-05 08 31.1	2	18.18	16.83	15.30	13.61	12.96	12.69	
867							05 33 55.10	-05 56 13.8	2-3	19.34	17.43	15.79	13.77	13.21	12.92	
	SU		110	4-34	82		05 33 55.80	-04 47 49.7	3	17.30	15.28	14.44	13.12	11.99	11.10	
868						*	05 33 55.92	-05 01 54.1	3	20.84	17.94	16.65	14.48	13.78	13.58	
869							05 33 56.19	-06 41 06.8	1	18.60	16.72	15.40	13.70	13.02	12.80	
870							05 33 56.39	-04 35 30.0	2	18.66	17.00	15.37	13.73	13.09	12.80	
871							05 33 57.50	-06 46 23.6	1	20.77	17.14	15.35	13.77	13.07	12.85	
872							05 33 57.56	-06 40 05.6	4-5	17.78	16.14	15.28	14.15	13.63	13.27	5
		76-68		4-301	83		05 33 57.69	-05 40 06.1	1-2	20.57		13.85	11.85	10.90	10.63	
873							05 33 57.90	-04 35 43.8	2	19.37	17.50	15.72	13.91	13.26	13.03	
874							05 33 58.04	-04 07 50.3	2	18.12	16.62	14.55	12.78	12.18	11.90	
875							05 33 58.16	-04 36 24.8	2	21.82	18.66	16.53	14.29	13.49	13.07	
876							05 33 59.45	-06 21 18.2	2	18.49	17.11	15.48	13.69	13.00	12.77	
877							05 33 59.46	-04 43 04.6	1	16.09	14.81	13.60	12.33	11.63	11.44	
878							05 33 59.69	-06 35 25.2	2	18.67	16.56	15.36	13.64	13.04	12.76	
				4-15	85		05 34 00.42	-04 36 15.0	1	17.76	15.91	14.37	12.74	12.08	11.80	
879							05 34 02.03	-04 44 53.7	4	15.11	13.55	12.65	13.06	12.41	12.08	
880							05 34 02.40	-06 54 42.6	1-2	17.52	15.81	14.38				
881							05 34 02.49	-06 04 31.1	2	19.09	17.66	16.24	14.32	13.54	13.14	
882							05 34 02.78	-02 57 34.2	2	18.44	16.59	14.90	13.22	12.55	12.27	
883							05 34 02.96	-05 50 41.7	2			15.75	13.93	13.32	13.03	
	WW	76-71		4-148	88		05 34 03.00	-05 36 57.3	1-2	15.03	13.94	11.94	10.38	9.51	9.09	
		75-188		4-14	86		05 34 03.84	-04 36 06.2	3	16.67	15.37	14.14	12.71	12.00	11.78	
884							05 34 04.40	-05 36 26.4	1	19.42	18.02	15.92	13.54	12.96	12.66	
885							05 34 04.71	-04 50 49.6	2	19.58	17.80	16.08	13.91	13.28	12.98	
886							05 34 04.96	-06 23 47.0	2	18.26	16.53	14.75	13.10	12.45	12.07	
887							05 34 05.99	-06 06 11.7	3	18.88	17.09	16.06	13.94	13.36	13.09	
	WX	76-72	111	4-100	91		05 34 07.32	-05 13 45.5	2-3			12.63	11.17	10.38	9.97	
		76-75		4-190	95		05 34 07.78	-05 55 47.1	2-3	15.33	13.81	13.17	12.16	11.42	11.26	
888							05 34 07.94	-06 12 34.0	2	19.55	17.44	15.84	14.25	13.66	13.37	
	V396	76-74		4-146	94		05 34 07.97	-05 36 17.1	4	19.45	17.42	14.75	12.60	11.83	11.28	
889							05 34 08.00	-04 07 17.0	1	16.30	14.78	13.53	12.21	11.54	11.36	
890							05 34 08.35	-06 51 56.5	2-3	19.36	17.72	16.00	14.14	13.52	13.11	
891						*	05 34 08.36	-05 14 38.8	1-2			13.75	13.15	12.85		
892							05 34 09.11	-03 16 47.8	2	19.28	17.37	15.42	13.86	13.14	12.92	
893							05 34 10.30	-03 22 20.9	1	18.61	16.88	15.31	13.93	13.26	13.03	
894							05 34 10.48	-04 49 53.9	1-2	18.65	16.76	15.51	13.52	12.73	12.46	
895							05 34 10.64	-03 18 22.7	1	16.03	14.37	13.12	12.16	11.51	11.25	
896							05 34 10.87	-05 54 28.2	1			18.76	14.63	13.97	13.69	
897							05 34 11.01	-06 47 24.4	1-2	17.39	14.16	13.49	12.55	11.89	11.65	
	V546	75-190		4-47	97		05 34 11.39	-04 51 23.0	4	15.77	14.58	13.75	12.35	11.50	11.08	
898							05 34 11.58	-06 35 09.2	2	18.48	17.01	15.24	13.54	12.98	12.66	
		76-78		4-307	99		05 34 11.60	-05 55 21.9	3	16.63	15.34	13.75	12.26	11.53	11.14	
899						*	05 34 11.89	-05 06 16.2	4-5	21.42	19.23	16.88	14.49	13.89	13.52	
900							05 34 11.95	-05 52 22.0	2	20.11	17.95	15.39	13.46	12.83	12.55	
901							05 34 12.06	-06 17 02.4	1-2	19.03	17.18	15.37	13.35	12.71	12.43	
	BT	75-191		4-45	98		05 34 12.21	-04 50 07.3	4	16.37	15.95	17.59	13.43	12.37	11.51	
902						*	05 34 12.89	-05 28 48.2	2-3			12.09	11.39	11.22		
903						*	05 34 13.06	-05 33 48.5	4-5			14.32	14.34	13.53	12.99	
	IM	76-79		4-135	100		05 34 13.20	-05 33 53.6	4			13.13	12.67	11.90	11.45	
	V742	76-80		4-309	103		05 34 13.46	-05 55 41.8	1	17.33	15.56	13.79	12.52	11.73	11.42	
				4-308	101		05 34 13.52	-05 35 38.6	4			15.31	13.40	12.16	11.32	
904						*	05 34 13.78	-05 00 04.2	4-5	22.18	19.25		14.66	14.09	13.54	
905						*	05 34 13.84	-05 07 59.4	2	18.44	16.56	15.10	13.57	12.94	12.68	
906						*	05 34 14.09	-05 47 21.9	2-3			14.71	13.23	12.51	12.29	
		76-81		4-167	102		05 34 14.21	-05 42 21.0	3	17.54		13.73	12.30	11.41	10.99	
907							05 34 14.71	-05 53 07.6	1	18.97	17.08	14.82	13.38	12.74	12.46	
908							05 34 14.99	-04 23 26.6	4	21.14	18.19	16.57	14.69	14.11	13.78	
909						*	05 34 15.26	-05 04 51.8	4	15.60	16.23	14.99	12.70	12.03	11.65	
910							05 34 15.50	-04 23 34.1	3	20.01	17.76	16.27	13.97	13.38	13.09	
911							05 34 15.62	-06 24 16.8	2	19.86	18.10	15.75	13.95	13.36	13.05	
912						*	05 34 15.67	-05 32 24.2	3-4			12.47	11.32	10.56		
913							05 34 16.14	-04 47 03.6	3	19.92	17.54	16.26	14.35	13.70	13.43	
914							05 34 16.35	-04 49 27.2	2	18.90	17.00	15.17	13.05	12.35	12.09	
		76-82					05 34 16.59	-03 57 22.7	3	13.98	12.81	11.98	11.09	10.41	10.06	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
915							05 34 16.87	-05 04 21.1	1	17.27	15.37	14.33	11.55	10.69	10.35	
		76-85		4-147	107		05 34 17.14	-05 38 16.8	1	18.10		13.39	12.26	11.55	11.28	
916							05 34 17.41	-02 58 36.7	2	17.06	15.64	14.33	12.78	12.09	11.86	
917						*	05 34 18.11	-05 28 33.6	4				12.98	11.86	11.33	
918							05 34 18.33	-06 54 25.9	4	15.72	15.52	13.83	12.51	11.88	11.53	
		76-88		4-312	111		05 34 18.67	-05 37 08.2	4			15.54	13.34	12.65	12.10	
	WZ	76-89		4-127	110		05 34 19.55	-05 30 19.9	3				11.03	10.09	9.45	
919							05 34 19.89	-06 18 47.9	1-2	18.05	16.43	14.91	13.39	12.72	12.50	
		76-86					05 34 20.38	-02 57 46.9	1	16.56	14.40	14.02	13.75	12.27	11.27	
920							05 34 20.43	-06 31 15.1	4	19.80	18.09	16.27	14.18	13.60	13.31	
				4-311	109		05 34 20.69	-04 35 01.9	1	17.50	16.12	14.55	13.11	12.37	12.13	
921							05 34 20.88	-05 06 50.1	1	18.67	17.13	15.00	13.40	12.75	12.50	
922							05 34 21.26	-04 50 32.7	1	19.04	16.86	15.76	13.85	13.06	12.72	
923							05 34 21.45	-04 55 47.9	3	18.47	16.72	14.65	12.53	11.85	11.58	
924							05 34 21.74	-04 34 00.2	3	19.68	18.10	16.18	13.81	13.26	12.98	
925W						*	05 34 22.06	-05 01 33.5	2-4	18.25	17.76	14.87	13.13	12.62	12.25	2
925E						*	05 34 22.10	-05 01 34.5	2-4	18.25	17.76	14.87	13.13	12.62	12.25	2
	V547	76-90		4-21	113		05 34 22.99	-04 41 39.3	3	15.53	14.25	13.08	11.83	11.03	10.72	
926						*	05 34 23.82	-05 08 15.9	2	18.25	16.24	13.48	12.52	11.85	11.43	
927							05 34 24.06	-05 42 22.1	1			15.47	13.44	12.74	12.46	
928							05 34 24.77	-04 27 33.2	4-5	21.25	19.18	16.58	14.29	13.67	13.33	
929							05 34 24.92	-05 51 44.8	4-5		18.48	16.21	14.99	14.42	14.19	
930							05 34 25.26	-04 54 39.8	1-2	16.72	15.69	13.73	11.99	11.21	10.99	
931							05 34 25.41	-02 56 36.8	1	18.58	16.83	15.31	13.81	13.16	12.88	
				4-315	115		05 34 25.42	-04 56 55.1	3-4	14.71	13.50	11.65	11.77	11.04	10.71	15
932						*	05 34 25.55	-05 37 02.3	4			13.54	12.90	12.56		
	IQ	76-91		4-58	116		05 34 25.73	-04 56 55.4	2		13.01	13.16	11.73	10.93	10.57	16
	IP	76-92		4-314	114		05 34 25.88	-04 56 27.5	3	16.12	14.54	13.43	12.18	11.34	10.91	
933							05 34 25.89	-06 03 52.0	3	18.42	17.15	15.45	13.57	12.88	12.62	
934						*	05 34 26.07	-05 07 33.3	1	17.97	16.20	14.53	12.84	12.25	11.94	
935						*	05 34 26.16	-05 26 30.4	4				11.17	9.98	9.15	
936						*	05 34 26.76	-05 01 17.8	1	16.88	15.63	13.72	12.24	11.60	11.37	
937						*	05 34 26.79	-05 28 32.2	3				12.45	11.61	11.42	
938						*	05 34 27.06	-05 32 29.1	2				11.50	10.78	10.53	
939							05 34 27.16	-05 48 03.7	1		18.75	15.45	13.81	13.19	12.91	
940						*	05 34 27.43	-05 00 26.3	4	18.87	17.59	16.02	14.42	13.71	13.44	
941							05 34 27.54	-05 28 28.5	1-2				12.26	11.52	11.28	
				4-57	118		05 34 27.65	-04 57 05.2	4	17.27	15.43	15.13	13.74	12.89	12.29	
942							05 34 27.67	-05 37 19.2	3				13.32	11.41	10.18	
				4-317	122		05 34 27.93	-05 26 34.7	3				12.23	11.26	10.65	
943							05 34 28.09	-06 16 13.2	1	15.81	14.32	13.19	12.25	11.48	11.36	
944						*	05 34 28.52	-05 24 57.9	1-2				11.14	10.34	9.95	
945						*	05 34 29.26	-05 14 39.8	1				10.96	9.95	9.43	
946						*	05 34 29.49	-05 13 55.2	3				12.55	11.19	10.43	
	BV	76-94		4-29	119		05 34 29.55	-04 45 02.7	3-4	15.69	15.40	13.78	12.74	11.82	11.22	
				4-319	125		05 34 29.60	-05 47 24.7	2	16.84	15.88	13.92	12.64	11.89	11.65	17
				4-318	123		05 34 29.62	-05 03 07.4	4	17.17	17.11	16.02	14.16	13.36	12.81	
947							05 34 29.79	-04 51 47.7	3	20.31	17.55	17.32	13.24	11.78	10.91	
		76-95		4-41	121		05 34 30.06	-04 49 50.7	3	15.97	14.49	13.16	12.01	11.27	10.96	
	IS	76-97		4-94	124		05 34 30.25	-05 11 48.2	3			13.61	11.62	10.52	9.84	
		76-96		4-13	120		05 34 30.64	-04 35 52.7	3	17.36	15.33	14.09	12.53	11.57	11.23	
948							05 34 30.96	-05 58 03.7	4-5	19.85	18.58	16.34	14.16	13.56	13.26	
949							05 34 31.45	-06 43 22.6	2	17.35	15.21	14.32	12.67	12.00	11.79	
950							05 34 31.78	-04 57 37.4	2-3	19.91	18.74	15.98	13.90	13.30	12.97	
951							05 34 32.23	-05 41 48.5	2			15.22	13.68	13.01	12.76	
952						*	05 34 32.76	-04 58 46.8	3	19.09	17.45	15.85	13.76	13.17	12.89	
953							05 34 32.87	-06 24 44.0	2	19.24	17.51	15.73	13.81	13.25	12.87	
954							05 34 33.61	-06 11 19.5	3	19.22	18.18	15.74	13.94	13.33	13.02	
955						*	05 34 33.72	-05 40 22.8	4				12.74	12.08	11.77	
956							05 34 33.86	-05 56 38.1	1	17.78	15.91	14.16	12.69	12.05	11.83	
				4-140	129		05 34 33.96	-05 34 51.2	1		19.81	13.21	11.86	10.89	10.42	
957						*	05 34 33.96	-05 48 25.0	2	20.48		14.72	13.30	12.67	12.36	
958							05 34 34.01	-06 32 09.6	4-5	20.89	19.24	17.10	14.86	13.99	13.23	
	IT			4-320	127		05 34 34.17	-04 48 27.9	1	18.23	16.26	13.95	12.68	11.94	11.71	
		76-98					05 34 34.24	-02 58 16.6	4	17.53	15.17	15.23	12.77	11.67	11.03	
959							05 34 34.69	-06 08 27.8	3	18.01	16.58	15.09	13.75	13.02	12.66	
960							05 34 34.88	-06 11 26.0	3	18.06	16.65	14.23	12.50	11.86	11.61	
961							05 34 35.12	-04 48 35.9	2		18.16	15.12	13.36	12.72	12.47	
962							05 34 35.13	-06 44 53.4	1	18.56	16.80	15.39	13.74	13.05	12.74	
963							05 34 35.16	-04 52 18.0	3	18.95	16.83	16.04	14.38	12.89	11.80	
964						*	05 34 35.20	-05 34 32.2	4				12.76	11.92	11.49	
965							05 34 35.21	-04 53 52.3	1-2	19.04	17.41	14.66	13.08	12.40	12.20	
966						*	05 34 35.46	-05 03 26.8	1	14.47	18.55	16.22	14.37	13.72	13.45	
967						*	05 34 35.76	-05 40 09.5	1	19.72		14.39	12.75	11.93	11.59	
968							05 34 35.88	-04 53 50.5	1	18.39	17.20	14.09	12.69	11.98	11.79	
969							05 34 35.98	-04 52 18.0	3	20.25	17.65	15.78	13.84	13.17	12.86	
	XX	76-100	117	4-200	132		05 34 36.15	-06 05 34.7	3	15.36	14.68	13.59	12.24	11.39	10.80	
970							05 34 36.31	-06 16 24.4	4	19.60	17.78	16.06	14.10	13.36	13.14	
971							05 34 36.47	-06 42 11.5	2	18.44	17.07	15.01	12.98	12.27	12.05	
972							05 34 36.77	-04 47 30.8	3		18.05	15.88	13.47	12.85	12.52	
973							05 34 36.97	-04 49 11.0	4		19.42	17.03	14.48	13.40	12.89	
974						*	05 34 37.10	-05 31 09.0	3-4				12.52	11.49	10.94	
975							05 34 37.15	-04 38 23.6	1	20.81	17.90	15.96	14.06	13.44	13.18	
976							05 34 37.18	-07 57 40.3	2	17.13	15.49	14.27	12.68	11.92	11.62	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
977	IV	76-101		4-139	131		05 34 37.47	-05 34 51.9	3		19.94	12.69	11.81	10.80	10.17	
							05 34 37.51	-05 57 34.3	1	20.59	18.04	18.47	14.35	13.72	13.51	
	V1000			4-171	134		05 34 37.67	-05 43 04.5	3	17.47			11.70	10.97	10.77	
978							05 34 37.72	-04 48 57.7	1		17.47	14.89	13.21	12.22	11.91	
979							05 34 37.74	-06 02 33.7	2	18.33	17.12	15.22	13.18	12.64	12.32	
980							05 34 37.78	-04 19 28.1	1	19.06	17.21	15.30	13.45	12.81	12.60	
981						*	05 34 38.22	-05 24 23.7	4				12.73	11.94	11.70	
982							05 34 38.95	-05 57 53.7	3		17.45	15.69	13.49	12.90	12.58	
983							05 34 39.21	-06 21 39.4	2	20.61	19.07	16.53	14.58	13.97	13.54	
984							05 34 39.24	-05 50 56.6	3		17.14	15.46	13.35	12.74	12.46	
985						*	05 34 39.38	-05 01 46.7	2	18.77	16.83	14.99	12.88	12.25	11.89	
986						*	05 34 39.71	-06 07 13.3	1	16.93	15.18	13.83	12.30	11.64	11.40	
987						*	05 34 39.74	-05 03 06.2	1	17.58	16.19	14.67	12.89	12.18	11.93	
988						*	05 34 39.86	-05 30 06.7	3						10.57	18
	V766	76-103		4-222	145		05 34 39.88	-06 25 14.0	3	16.95	15.00	15.69	14.74	13.93	13.08	
989						*	05 34 39.99	-05 30 04.4	4						10.71	19
		76-102		4-60	135		05 34 40.49	-04 57 39.6	4	17.59	16.24	14.37	12.82	12.09	11.75	
990						*	05 34 40.65	-05 06 58.7	4	16.49	18.38	18.30	14.55	12.88	11.82	
991						*	05 34 40.82	-05 26 38.7	2				12.68	11.67	11.14	
	IX		118	4-115	137		05 34 40.87	-05 22 42.3	3				10.53	9.46	8.60	
	XY	76-105		4-177	141		05 34 41.18	-05 46 11.6	3	17.65	15.34	14.04	12.24	11.36	10.83	
992							05 34 41.43	-04 39 13.8	1	18.35	16.11	14.73	13.26	12.51	12.14	
993							05 34 41.79	-04 53 46.2	3		14.99	12.99	12.31	11.42	11.03	
994							05 34 41.85	-04 56 58.4	4	20.74	18.75	16.63	14.21	13.65	13.25	
995							05 34 41.89	-04 53 38.3	4		15.13	12.14	12.20	11.41	11.04	
996						*	05 34 41.97	-05 45 22.5	4-5			17.37	13.99	13.08	12.40	
997						*	05 34 41.99	-05 45 00.6	4			15.92	13.40	12.73	12.36	
998						*	05 34 42.04	-05 04 31.8	4			16.72	13.91	13.15	12.61	
999						*	05 34 42.44	-05 43 25.5	2			15.74	13.40	12.57	12.23	
1000							05 34 42.59	-02 47 41.7	1	18.75	16.54	14.91	13.55	12.85	12.65	
	IZ			4-174	147		05 34 43.15	-05 44 40.0	3-4	20.28		14.65	12.31	11.62	11.18	
1001							05 34 43.16	-06 27 14.6	2	17.92	15.92	14.37	12.76	12.12	11.83	
	V765	76-107			144		05 34 43.29	-06 17 03.6	1	16.59	14.95	13.73	12.28	11.57	11.34	
1002							05 34 43.52	-04 51 36.4	2		17.66	14.42	12.82	12.06	11.77	
1003							05 34 43.56	-05 58 10.4	4-5	18.98	17.26	15.87	13.78	12.95	12.40	
1004							05 34 43.98	-04 39 38.5	3	20.72	17.73	15.87	13.85	13.18	12.85	
	V1118						05 34 44.74	-05 33 42.2	4				12.64	11.55	10.85	20
1005							05 34 44.75	-06 40 29.4	2	20.00	17.53	15.40	13.81	13.25	12.92	
				4-56	142		05 34 44.77	-04 56 40.8	4	18.13	16.87	16.00	13.65	12.72	12.23	
		76-108		4-82	148		05 34 44.98	-05 06 49.5	1	15.79	14.19	13.16	11.87	11.00	10.66	
1006						*	05 34 45.07	-05 06 20.3	4	19.24	16.77	16.34	13.59	12.71	12.23	
	XZ	76-109		4-90	149		05 34 45.19	-05 10 47.7	3	18.13	16.38	13.77	12.18	11.34	10.70	
1007						*	05 34 45.22	-05 39 57.2	4-5				15.41	14.04	12.89	
1008						*	05 34 45.77	-05 43 43.9	2	18.33	17.53	14.00	12.21	11.72	11.43	2,8
1009						*	05 34 45.88	-05 41 09.7	1	19.89		13.86	12.24	11.33	11.02	
	V474	76-110		4-151	152		05 34 46.29	-05 39 07.7	3			12.38	10.88	9.84	9.23	
1010							05 34 46.74	-04 57 44.1	1	17.21	15.60	14.72	12.89	12.15	11.97	
1011							05 34 47.38	-02 51 51.9	2	18.26	16.36	14.51	12.96	12.28	12.02	
	YY	76-113	119	4-196	158		05 34 47.53	-05 57 56.9	3	16.81	12.96	12.51	10.94	10.04	9.40	
1012							05 34 47.64	-04 50 01.4	1-2			14.29	12.74	11.48	10.95	
1013							05 34 47.66	-06 19 40.1	3	17.62	15.10	14.14	12.77	11.70	11.20	
1014							05 34 47.72	-02 53 29.5	1	18.95	17.29	15.06	13.49	12.80	12.61	
1015						*	05 34 47.89	-05 30 46.6	1				12.10	11.43	11.09	
	V550	76-111		4-78	151		05 34 47.95	-05 04 55.0	3	16.04	14.29	12.66	12.00	11.09	10.62	
1016							05 34 48.05	-04 14 55.3	2	16.83	15.01	13.40	12.09	11.35	11.16	
	KK	76-114		4-166	156		05 34 48.16	-05 42 29.0	1	18.16		12.63	11.26	10.43	10.14	21
1017							05 34 48.32	-06 22 42.8	1	19.79	17.94	15.71	13.78	13.21	12.97	
	V374	76-116		4-228	162		05 34 48.34	-06 30 26.9	3	15.74	14.58	13.05	12.10	11.31	10.82	
		76-112		4-44	146		05 34 48.44	-04 50 51.4	4		18.96	15.28	13.42	12.70	12.38	
1018							05 34 48.48	-05 42 28.1	3	18.16		12.63	13.20	11.90	11.22	22
1019							05 34 48.63	-04 47 50.0	3		18.27	14.49	13.07	12.31	11.94	
1020							05 34 48.75	-06 31 03.4	2	19.04	17.25	14.99	13.22	12.61	12.36	
1021						*	05 34 48.82	-05 33 33.1	2				13.59	12.83	12.48	
1022						*	05 34 48.88	-05 31 45.9	2				14.01	13.21	12.57	
1023							05 34 48.92	-04 57 14.3	1	19.11	16.98	15.60	13.49	12.67	12.44	
1024						*	05 34 49.08	-05 26 26.6	4				13.23	12.41	11.87	
	V400	76-115		4-176	160		05 34 49.10	-05 46 05.0	3	17.81	16.87	13.97	11.94	11.20	10.91	
1025						*	05 34 49.22	-05 04 38.1	1	17.54	15.64	14.08	12.51	11.80	11.57	
1026						*	05 34 49.57	-05 04 59.6	4	18.55	16.79	15.14	13.36	12.63	12.25	
1027						*	05 34 49.57	-05 29 03.4	4				12.05	11.08	10.53	
1028							05 34 49.59	-06 32 59.4	3		18.54	18.36	14.11	13.54	13.25	
1029							05 34 49.70	-05 54 27.2	4-5			19.23	17.41	14.89	14.18	13.64
1030							05 34 49.81	-06 15 28.5	1	19.00	17.29	15.43	13.51	12.94	12.67	
1031							05 34 49.82	-07 49 04.3	2	17.96	16.02	14.70	13.08	12.42	12.17	
1032							05 34 49.94	-02 44 08.5	3	18.82	16.20	14.71	13.52			
1033							05 34 49.96	-06 28 12.1	1-2	15.58	13.97	13.41	12.08	11.32	11.14	
1034							05 34 50.01	-05 53 04.1	2	20.83	17.80	15.13	12.95	12.30	12.08	
1035						*	05 34 50.44	-05 20 20.3	2-3				11.96	11.03	10.44	
1036						*	05 34 50.50	-05 23 35.4	4				12.52	11.67	11.20	
1037							05 34 50.55	-04 48 37.2	4-5			17.73	14.82	13.55	12.64	
1038						*	05 34 50.66	-05 04 07.7	1	18.16	15.61	14.54	12.70	11.92	11.62	
1039							05 34 50.72	-04 58 36.8	1-2	18.03	15.52	14.40	12.15	11.15	10.74	
1040						*	05 34 50.73	-05 27 01.1	3				11.65	10.71	10.19	
1041							05 34 50.76	-04 48 20.4	4-5				15.35	14.47	13.94	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1042						*	05 34 50.87	−05 39 29.2	2	16.62		14.43	12.76	11.76	11.30	
1043						*	05 34 51.56	−05 25 13.0	2				11.23	10.21	9.53	
				4-329	165		05 34 51.75	−05 39 24.1	2			13.56	11.88	11.11	10.78	
1044						*	05 34 52.02	−05 24 18.8	4				12.71	11.89	11.58	
1045						*	05 34 52.03	−05 24 43.0	3-4				12.13	11.20	10.63	
1046						*	05 34 52.13	−05 40 57.0	4			16.06	13.07	12.23	11.64	
1047						*	05 34 52.16	−05 22 31.9	1-2				10.85	9.97	9.62	
1048							05 34 52.31	−06 35 08.7	2	18.04	16.13	14.56	13.28	12.74	12.43	
1049							05 34 52.40	−06 11 57.0	1-2	17.18	15.39	14.23	12.63	11.89	11.73	
1050							05 34 52.48	−02 53 23.2	2	17.26	15.37	14.00	12.54	11.83	11.62	
1051						*	05 34 52.59	−05 24 03.8	1				11.88	11.19	11.01	
1052						*	05 34 52.92	−05 28 59.1	4-5				13.07	12.41	12.02	
	YZ	76-117	120	4-74	164		05 34 53.04	−05 03 27.1	3	15.94	14.15	13.17	11.97	11.19	10.79	
1053							05 34 53.07	−04 37 03.6	1	20.61	17.74	15.93	14.41	13.60	13.06	
1054						*	05 34 53.13	−05 47 42.5	2			16.09	14.03	13.38	13.16	
				4-330	166		05 34 53.31	−05 54 05.3	1-4		17.42	14.09	12.68	11.99	11.69	
1055						*	05 34 53.43	−05 10 27.9	1-2			13.78	12.19	11.52	11.28	
				4-59	155		05 34 53.44	−04 57 32.8	3	18.69	17.96	15.30	13.30	12.66	12.27	
1056							05 34 53.62	−03 01 42.7	2	18.34	16.30	14.59	13.10	12.39	12.16	
1057							05 34 53.69	−05 45 11.2	1-2			15.69	13.38	12.71	12.43	
1058							05 34 53.87	−06 23 52.6	1	13.98	12.45	11.78	11.65	10.91	10.66	23
	BW	76-118		4-219	173		05 34 54.05	−06 23 50.7	3	13.98	12.45	11.78	11.69	10.84	10.18	24
1059						*	05 34 54.25	−05 21 35.4	3			12.05	11.01	11.41	11.09	
	ZZ	76-119		4-179	168		05 34 54.91	−05 46 43.9	1-2	18.43	17.21	13.44	11.37	10.56	10.07	
1060						*	05 34 55.55	−05 36 06.2	3				12.75	11.37	10.58	
1061							05 34 55.60	−05 55 29.3	4		16.68	15.01	13.02	12.05	11.52	
	KP	76-120	124	4-157	172		05 34 55.80	−05 41 26.2	3	18.37		13.05	11.37	10.51	9.93	
				4-331	167		05 34 56.10	−05 00 55.2	2	18.16	16.10	14.27	12.72	12.10	11.82	
1062						*	05 34 56.14	−05 06 01.8	2	17.81	16.03	14.03	12.57	11.87	11.67	
	KO			4-333	171		05 34 56.48	−05 31 36.2	1-2				10.32	9.65	9.37	
1063						*	05 34 56.51	−05 27 51.1	1-4				12.49	11.64	11.29	
1064						*	05 34 56.54	−05 01 07.2	5		17.92	16.95	14.23	13.53	13.05	
1065							05 34 56.82	−04 46 04.8	1-2				12.38	11.46	10.96	
1066						*	05 34 57.78	−05 22 51.2	3				12.51	11.72	11.32	
1067							05 34 57.91	−04 49 12.8	1		18.96	13.96	12.73	11.91	11.68	
1068							05 34 58.06	−03 45 21.0	4				13.69	13.10	12.76	25
1069						*	05 34 58.19	−05 11 53.7	2				12.63	11.96	11.72	
1070						*	05 34 58.25	−05 41 49.9	3			15.31	12.41	11.05	10.28	
	BX	76-122		4-188	177		05 34 58.34	−05 54 28.9	2	18.31	11.08	13.48	12.14	11.26	10.64	
		76-123		4-197	178		05 34 58.53	−06 00 00.4	3				11.71	11.02	10.82	
	KT	76-124		4-173	176		05 34 59.01	−05 44 29.3	3	17.89		12.59	11.41	10.71	10.31	2,26
1071							05 34 59.04	−06 42 17.7	2	17.31	15.30	14.27	12.73	11.94	11.68	
1072						*	05 34 59.10	−05 44 30.5	1-2	17.89		12.59	11.41	10.71	10.31	2,27
1073						*	05 34 59.23	−05 44 55.3	4-5			15.15	12.75	11.11	9.98	
1074						*	05 34 59.23	−05 45 58.9	4			18.39	14.13	11.62	10.28	9.42
				4-332	169		05 34 59.32	−05 05 30.0	2-3	18.03	16.43	13.83	12.40	11.54	11.26	
1075							05 34 59.39	−06 07 22.9	4	18.57	16.92	15.03	13.15	12.50	12.21	
	KR		125		175		05 35 00.11	−05 23 01.9	2				10.23	9.42	8.99	
1076							05 35 00.39	−05 09 44.1	1	15.94		15.88	13.69	13.10	12.78	
		76-126		4-199	184		05 35 00.52	−06 01 23.5	3-4				12.95	12.21	11.84	
1077							05 35 00.53	−04 36 44.7	1	19.86	18.49	15.87	13.89	13.32	13.03	
1078							05 35 00.53	−04 48 35.7	4-5		19.84	17.03	14.31	13.22	12.37	
1079						*	05 35 00.82	−05 38 08.0	2			13.90	11.90	10.80	10.02	
				4-334	174		05 35 00.83	−04 46 49.2	1				12.44	11.69	11.45	
1080						*	05 35 00.85	−05 09 39.0	3	19.68	18.43	14.99	12.99	12.34	12.10	
1081							05 35 00.93	−04 48 18.8	1		19.72	14.22	12.38	11.58	11.26	
1082						*	05 35 01.18	−05 24 06.7	2				11.37	10.60	10.30	
1083							05 35 01.37	−06 03 55.7	3	20.53	17.76	15.90	13.90	13.18	12.81	
		76-125		4-338	185		05 35 01.67	−04 32 52.9	1	16.94	15.21	13.96	12.75	11.96	11.61	
1084							05 35 02.08	−04 47 30.8	2		19.77	15.95	13.49	12.86	12.51	
1085						*	05 35 02.18	−05 29 09.8	4				12.02	11.07	10.59	
1086						*	05 35 02.50	−05 33 10.0	1				12.09	11.32	11.00	
1087							05 35 02.79	−05 44 43.0	3			16.03	13.81	13.17	12.79	
		76-127		4-36	180		05 35 02.98	−04 48 32.7	4				13.21	12.51	12.19	
				4-343	193		05 35 03.09	−06 12 23.4	1	17.14	15.01	13.35	13.02	12.35	12.13	11
		76-128		4-38	181		05 35 03.26	−04 49 21.0	2				9.96	9.08	8.51	
1088						*	05 35 03.57	−05 29 26.2	4				12.35	11.28	10.58	
1089							05 35 03.65	−06 27 55.7	3	19.80	17.40	15.30	13.56	12.94	12.69	
	BY	76-129		4-43	186		05 35 03.71	−04 50 53.1	3				11.47	10.36	9.60	
1090							05 35 03.95	−05 51 19.0	4-5				14.67	13.71	13.01	
1091							05 35 04.52	−05 55 25.6	1-2		18.06	15.15	13.39	12.78	12.52	
	V554			4-62	189		05 35 04.61	−04 58 29.0	3	16.30	14.56	17.23	13.48	12.07	11.09	
1092							05 35 04.69	−04 46 21.9	4-5				15.35	14.27	13.38	
1093							05 35 04.82	−04 47 09.0	3				14.01	13.40	13.05	
				4-340	188		05 35 05.00	−04 49 13.2	1				12.02	11.33	11.11	2,25
1094							05 35 05.04	−04 32 33.5	2	18.57	16.58	14.59	13.00	12.32	12.03	
1095						*	05 35 05.07	−05 36 43.8	4				12.73	11.91	11.38	
1096							05 35 05.24	−04 48 02.7	2		19.42	13.49	12.12	11.41	11.16	
1097							05 35 05.44	−06 15 47.0	2	20.75	17.93	15.07	12.62	11.59	11.19	
1098							05 35 05.50	−05 27 52.2	2				12.36	11.41	10.99	
1099						*	05 35 05.62	−05 29 22.3	3				13.12	11.57	10.50	
	V408				196		05 35 05.76	−05 33 55.8	4				11.97	10.92	10.23	
					190		05 35 05.85	−04 48 43.2	3				12.21	11.16	10.57	
1100							05 35 06.07	−05 57 01.0	4		18.54	15.67	12.45	10.93	10.09	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1101	V982			4-134	199	*	05 35 06.45	-05 33 35.2	4				11.01	9.68	8.72	
1102							05 35 06.83	-05 10 38.5	2			14.49	12.60	11.90	11.60	
1103							05 35 07.16	-06 18 16.3	1	19.30	16.32	14.93	13.26	12.60	12.32	
1104							05 35 07.24	-04 50 25.5	1				12.25	11.54	11.34	
1105						*	05 35 07.51	-06 19 23.3	2	19.04	16.35	14.65	13.31	12.65	12.38	
1106							05 35 07.53	-05 11 14.5	2				12.35	11.27	10.83	
1107							05 35 07.53	-04 45 55.1	4			14.79	13.63	13.16	12.68	2,11
1108							05 35 07.55	-06 33 38.8	2				13.17	12.44	12.30	
1109							05 35 07.65	-02 49 01.0	4	15.74	13.80	12.60	11.37	10.80	10.37	2,13
1110							05 35 07.66	-06 06 54.1	2	17.26	15.63	14.25	12.71	12.06	11.80	
1111							05 35 07.69	-05 36 58.7	2				11.70	10.64	10.18	
1112							05 35 07.84	-04 34 52.3	1	18.89	17.08	15.03	13.40	12.70	12.45	
							05 35 07.92	-04 35 49.2	1	19.09	16.36	15.03	13.07	12.06	11.75	
	LN		128		206		05 35 08.02	-05 32 44.3	1-2				12.04	11.06	10.47	13
1113							05 35 08.02	-05 36 46.6	3				13.35	12.63	12.41	
	LO			4-143	207		05 35 08.22	-05 37 04.8	2				11.79	10.87	10.43	
1114						*	05 35 08.39	-05 28 29.3	4				13.27	11.78	10.82	
	V555	76-132		4-28	198		05 35 08.69	-04 46 52.4	3		18.38	13.85	12.69	11.07	9.91	
1115						*	05 35 08.74	-05 04 40.8	2	19.42	17.23	14.30	12.37	11.55	11.12	
	LM			4-130	205		05 35 08.85	-05 31 49.1	2-3				11.26	10.38	9.82	
	V481	76-131		4-7	197		05 35 09.01	-04 27 51.1	2	13.43	12.50	11.92	10.80	10.11	9.63	
1116							05 35 09.42	-07 49 19.4	1	18.82	16.80	15.19	13.53	12.86	12.57	
1117							05 35 09.45	-04 25 16.4	4-5		19.87	17.58	14.99	14.43	14.06	
	V556	76-134		4-55	204		05 35 09.46	-04 57 11.7	4	17.49	17.20	15.65	13.98	13.21	12.71	
1118						*	05 35 09.48	-04 59 41.4	3	20.71	18.04	15.62	12.91	12.20	11.83	
1119						*	05 35 09.59	-05 28 22.8	3				11.94	10.76	10.10	
1120							05 35 09.66	-04 06 19.7	3	20.62	18.66	16.26	14.43	13.87	13.60	
1121							05 35 09.97	-05 57 11.9	3				12.06	10.53	9.61	
	SY	76-135	127	4-6	201		05 35 10.08	-04 27 39.5	3	13.69	13.74	11.87	10.97	10.24	9.69	
	AA	76-137	130	4-180	209		05 35 10.33	-05 46 33.6	1-2			11.09	9.62	8.71	8.09	
1122							05 35 10.70	-06 34 15.5	4	19.18	17.06	15.71	13.76	12.97	12.38	
1123							05 35 10.81	-04 44 10.7	3				13.36	12.46	12.13	
1124							05 35 10.88	-04 29 01.5	2	18.94	17.70	15.46	13.69	13.02	12.72	
1125							05 35 10.94	-04 39 57.7	4		18.34	16.08	13.55	12.56	12.03	
				4-349	216		05 35 10.95	-06 13 25.2	2	17.64	15.38	13.75	12.25	11.58	11.33	
1126							05 35 10.97	-04 47 12.4	1		19.67	14.78	13.30	12.59	12.34	
1127							05 35 11.12	-05 34 59.6	1				11.95	11.09	10.77	
1128						*	05 35 11.47	-05 44 18.3	4				13.85	13.06	12.74	
1129							05 35 11.58	-04 46 33.7	1-2		18.83	13.73	12.29	11.63	11.40	
1130							05 35 11.78	-04 49 30.1	3				13.48	12.66	12.11	
1131							05 35 12.00	-04 21 20.2	2	20.61	18.99	16.13	13.89	13.29	12.92	
1132							05 35 12.05	-06 49 54.5	1	18.41	16.49	14.49	13.07	12.47	12.19	
	LW			4-126	214		05 35 12.21	-05 30 32.9	3				12.99	11.50	10.49	
	V486	76-138	131	4-170	215		05 35 12.36	-05 43 18.5	1			12.38	11.19	10.46	10.25	
1133							05 35 12.45	-04 44 25.8	1				10.73	9.77	9.45	
						WBHa 8	05 35 12.50	-07 05 26.7	2	18.73	16.49	14.91	13.31	12.67	12.43	
1134							05 35 12.59	-05 57 08.6	2				13.66	12.99	12.80	
1135						*	05 35 12.79	-05 01 46.4	3	19.10	18.11	15.93	13.95	13.27	13.03	
1136							05 35 12.83	-05 55 26.3	3				13.51	12.78	12.56	
1137						*	05 35 12.90	-05 45 37.6	4				13.33	12.52	12.12	
1138							05 35 12.95	-04 17 49.9	2	17.35	14.45	12.81	11.56	10.77	10.53	
	LX	76-140	133	4-150	219		05 35 13.00	-05 39 34.9	1-2				9.57	8.69	8.16	
	V557			4-85	213		05 35 13.31	-05 09 19.6	1	12.32		13.23	12.10	11.38	11.21	
	V488	76-141	134	4-128	218		05 35 13.60	-05 30 57.6	3				10.18	9.26	8.62	
		76-139		4-347	211		05 35 13.70	-04 42 58.7	2		17.64	13.32	11.90	11.01	10.64	
	LY			4-149	220		05 35 13.76	-05 39 10.1	1-2				10.82	10.03	9.68	
	BZ	76-143		4-186	222		05 35 14.04	-05 52 09.0	2				11.85	11.10	10.73	
1139							05 35 14.13	-04 07 50.0	5	21.21	19.60	17.34	15.11	14.48	14.04	
1140							05 35 14.23	-04 32 52.9	3	19.97	18.38	15.80	13.77	13.15	12.79	
	AB	76-144	135	4-169	221		05 35 14.23	-05 43 17.6	3			12.06	10.37	9.51	8.99	
1141							05 35 14.29	-06 52 32.3	2	18.35	16.49	14.99	13.56	12.95	12.65	
1142							05 35 14.39	-04 55 22.6	1-2	17.71	15.89	14.18	12.86	12.09	11.49	
1143							05 35 14.44	-05 54 26.6	3				13.61	12.86	12.60	
1144							05 35 14.56	-06 15 12.7	1	17.68	14.73	12.77	12.49	11.38	10.86	
1145						*	05 35 14.64	-05 02 25.2	2	18.16	16.23	14.27	12.92	12.20		
1146							05 35 14.69	-02 43 35.5	2	17.19	15.20	13.83	12.29	11.62	11.39	
1147							05 35 14.72	-06 13 39.9	2	20.26	17.29	15.20	12.67	11.85	11.49	
1148						*	05 35 14.75	-05 44 02.5	4-5				16.77	15.97	14.76	
1149						*	05 35 14.88	-05 07 47.6	4-5				13.97	13.14	12.65	
1150							05 35 14.92	-05 36 39.2	2				12.62	11.78	11.51	
1151							05 35 14.94	-05 49 34.8	1				12.14	11.52	11.21	
1152							05 35 15.26	-05 00 33.4	2	17.91	18.06	14.23	13.38	12.72	12.45	
1153							05 35 15.28	-05 56 08.6	1				13.80	13.18	12.97	
	V487	76-142		4-10	217		05 35 15.39	-04 33 26.2	2	15.18	13.54	12.71	11.75	11.06	10.85	
1154							05 35 15.53	-05 53 16.2	1-4				13.15	11.91	11.26	
1155						*JW498	05 35 15.74	-05 32 59.1	3			13.9				28
1156							05 35 15.77	-04 50 54.3	4				13.56	12.75	12.41	
1157						*	05 35 15.80	-05 33 12.3	2				11.79	11.02	10.74	
1158						*JW502	05 35 15.87	-05 28 52.2	1-2			13.6				28
1159						*	05 35 15.95	-05 41 11.5	4			15.63	13.01	12.18	11.58	
1160						*	05 35 15.95	-05 14 59.0	1				11.63	10.77	10.32	
1161							05 35 16.09	-04 29 30.4	3	18.24	17.48	14.95	13.29	12.67	12.29	
1162						*	05 35 16.28	-05 32 02.2	4				12.98	12.27	11.89	
1163							05 35 16.31	-06 18 43.1	4	20.07	16.70	15.19	12.89	12.28	11.97	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1164							05 35 16.42	-04 26 05.5	2	19.68	17.89	15.74	13.74	13.14	12.82	
1165							05 35 16.49	-05 03 30.4	4	16.68	15.49	13.65	12.22	11.48	11.31	
1166						*	05 35 16.50	-05 40 18.0	1			14.06	12.58	11.85	11.66	
1167							05 35 16.87	-07 19 01.9	2	17.81	15.57	14.03	12.83	12.14	11.95	
1168						*	05 35 16.95	-05 45 55.8	3			14.40	12.32	11.63	11.31	
1169							05 35 17.07	-05 59 31.7	2			16.14	14.18	13.64	13.30	
1170	V411	76-148	138	4-194	233	Xray 15d	05 35 17.10	-05 58 30.7	4				12.43	11.69	11.24	
							05 35 17.24	-04 39 48.3	1-2			13.37	12.29	11.47	11.07	
							05 35 17.34	-06 05 16.0	1	16.30	14.60	13.20	12.04	11.38	11.18	
							05 35 17.35	-05 42 14.6	4			14.45	12.42	11.54	10.94	
							05 35 17.54	-05 40 48.4	2			13.91	12.41	11.60	11.30	
1171	V411	76-150	138	4-161	230	WBHa 12	05 35 17.67	-05 58 26.5	3				10.60	9.72	9.19	
							05 35 17.71	-07 20 15.3	2	17.91	15.37	13.83	12.59	11.86	11.58	
							05 35 17.78	-06 31 44.2	2	18.16	15.90	13.99	12.46	11.81	11.61	
							05 35 17.80	-05 56 45.7	1				13.47	12.81	12.59	
							05 35 17.80	-06 24 38.4	2	15.86	14.10	13.04	11.31	10.52	10.22	
1172	V559	76-146		4-23	226		05 35 17.85	-04 44 52.5	2			17.57	12.80	11.61	10.73	10.16
							05 35 17.91	-05 42 34.0	1-2				10.87	10.15	9.47	8.87
							05 35 17.95	-05 35 15.7	4				13.09	12.04	11.36	
							05 35 17.96	-04 20 41.3	3	19.07	18.27	15.98	14.08	13.25	12.73	
							05 35 17.98	-05 15 38.7	4				13.23	12.30	11.70	
1176						05 35 18.10	-04 31 19.3	2	18.01	16.17	14.45	12.68	12.04	11.79		
1177						05 35 18.10	-05 28 25.0	5				14.33	12.84	11.49		
1178						05 35 18.21	-05 16 34.0	3				13.02	12.18	11.69		
1179						*	05 35 18.23	-05 13 06.8	3				11.48	10.30	9.64	
1180							05 35 18.26	-06 24 30.3	2-3	19.96	17.96	15.42	13.69	13.11	12.80	
1181							05 35 18.39	-04 53 23.5	4			17.10	15.38	12.70	11.13	10.11
1182							05 35 18.43	-04 40 00.2	4				13.59	12.94	12.59	
1183							05 35 18.47	-05 08 30.8	2			15.60	13.73	13.13	12.85	
1184						*	05 35 18.52	-05 13 38.4	3				11.45	10.10	9.29	
1185		76-149		4-49	228		05 35 18.59	-04 59 42.4	1	21.23	18.01	16.12	13.77	13.13	12.87	
							05 35 18.63	-04 53 45.6	4			19.06	15.35	13.51	12.78	12.43
							05 35 18.70	-06 03 27.6	1			13.98	16.11	14.02	13.39	13.13
							05 35 18.70	-04 44 56.1	4-5				16.58	14.20	13.52	13.14
							05 35 18.76	-04 35 26.1	2-3	18.63	16.77	15.01	13.40	12.74	12.52	
1189						*	05 35 18.84	-05 14 45.6	2-3				12.21	11.31	10.89	
1190		76-153		4-224	248		05 35 18.95	-06 27 25.6	3	18.39	16.24	14.83	13.14	12.39	11.89	
							05 35 19.06	-04 07 20.4	4	20.44	18.99	16.48	14.45	13.77	13.57	
							05 35 19.23	-04 53 07.6	2-3				13.69	13.05	12.72	
							05 35 19.30	-05 16 44.7	4-5				12.95	12.03	11.46	
							05 35 19.49	-05 36 51.8	1				12.50	11.80	11.56	
1194						*	05 35 19.82	-05 45 40.9	1-2			14.25	12.70	12.01	11.82	
1195							05 35 19.89	-04 17 47.0	1	20.12	17.25	15.69	13.96	13.33	13.04	
1196						*	05 35 20.15	-05 13 15.6	2				9.65	7.72	6.43	
1197						*	05 35 20.19	-04 41 34.3	2				12.92	12.11	11.67	
1198						*	05 35 20.29	-05 30 39.5	2-3				11.62	10.72	10.16	
1199							05 35 20.66	-05 01 54.4	2	18.68	16.47	14.63	13.01	12.41	12.09	
1200							05 35 20.89	-06 07 17.5	4	18.61	17.17	15.88	13.84	13.22	12.89	
1201							05 35 20.96	-06 04 00.5	4	20.26	17.99	15.88	13.88	13.33	13.08	
1202							05 35 20.99	-04 17 56.0	5	21.15	19.19	18.61	15.77	14.91	14.27	
1203	MZ			4-354	245		05 35 20.99	-05 31 21.7	2				11.57	10.62	10.03	
							05 35 21.01	-04 45 38.0	2			14.76	13.11	12.47	12.19	
							05 35 21.25	-05 42 12.3	3			13.56	12.12	11.31	10.82	
							05 35 21.31	-06 56 24.4	1	18.13	16.13	14.59	13.71	12.74	12.25	
							05 35 21.42	-04 47 25.3	2			18.23	15.44	14.04	13.37	13.08
1205						*	05 35 21.57	-05 09 38.9	3				14.32	14.11	13.15	12.44
1206						*	05 35 21.58	-05 09 49.7	3			14.51	13.15	12.27	11.67	
1207		76-157		5-3	246		05 35 21.62	-05 34 58.3	2-3				12.25	11.42	11.05	
							05 35 21.70	-02 49 53.8	3	16.18	14.73	13.62	12.06	11.14	10.65	
							05 35 21.70	-05 34 46.8	3				11.18	10.32	9.78	
							05 35 21.77	-06 18 51.2	2	20.05	17.20	15.29	13.52	12.87	12.53	29
							05 35 21.87	-04 41 34.7	4				13.80	12.75	12.32	
1208	V415	76-154		4-79	242		05 35 21.88	-05 07 01.9	3	16.14	9.71	12.29	11.05	10.00	9.32	
							05 35 21.90	-04 54 07.2	2-3			17.91	13.45	11.82	11.04	10.68
							05 35 21.94	-05 17 04.4	2				12.29	11.73	11.37	13
							05 35 22.06	-05 52 36.8	3				13.60	12.85	12.40	
							05 35 22.26	-04 16 00.4	3	19.04	18.00	15.76	13.91	13.28	13.04	
1210						*	05 35 22.28	-05 35 26.7	2				12.62	11.92	11.62	
1211						*	05 35 22.33	-04 42 07.6	3			12.20	11.26	10.45	10.14	30
1212						*	05 35 22.41	-05 08 05.2	3				11.11	9.60	8.61	2,31
1213						*	05 35 22.53	-04 52 37.0	4				12.29	11.21	10.68	
1214						*	05 35 22.62	-05 14 11.3	3-4				11.65	10.72	10.29	
1215							05 35 22.76	-04 43 25.9	2-3				13.22	12.43	12.11	
1216	V1007	76-156	139	4-8	239		05 35 22.78	-04 28 51.1	3-4	12.46	13.93	13.27	12.14	11.32	10.93	
							05 35 22.79	-04 48 29.8	2				11.86	11.05	10.74	
							05 35 22.79	-05 31 37.2	1-2				12.21	11.27	10.75	
							05 35 22.80	-06 12 04.8	2	17.42	15.54	14.84	13.63	12.52	11.88	
							05 35 22.88	-04 37 40.7	3-4	18.74	16.50	14.70	13.04	12.14	11.70	
1218						*	05 35 22.90	-05 32 29.0	2				13.64	12.02	11.22	10.87
1219						WBHa 17	05 35 23.12	-07 08 39.3	1	17.20	16.16	14.11	12.92	12.26	12.00	31
1220							05 35 23.15	-06 23 36.8	4			19.34	18.60	16.85	15.97	15.34
1221							05 35 23.21	-05 28 33.9	5				13.78	13.20	12.78	
1222							05 35 23.27	-04 49 04.6	1				11.81	11.07	10.88	
1223							05 35 23.35	-04 40 10.3	3			17.09	13.41	11.24	9.53	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
	V561	76-159		4-2 4-33	238 244		05 35 23.59 05 35 23.72	-04 17 14.3 -04 48 16.6	3 4	17.57	14.76	12.84	11.78 13.08	10.94 12.35	10.36 12.02	
1224						*	05 35 23.76	-05 18 39.9	3				12.60	11.60	11.04	
1225							05 35 23.88	-05 51 27.9	4				13.74	13.09	12.80	
1226						*	05 35 23.96	-05 19 07.6	3				13.08	12.14	11.82	
1227						*	05 35 24.08	-05 09 06.8	4				14.43	13.78	13.40	
1228						*	05 35 24.24	-05 29 57.2	2				12.39	11.36	10.79	
1229							05 35 24.40	-06 11 14.7	2	20.15	18.27	16.10	13.98	13.41	13.06	
1230						*	05 35 24.48	-05 16 59.9	3				11.80	10.76	10.25	
	NS	76-164	142	4-198	258		05 35 24.48	-06 01 46.3	3-4	19.67	17.01	14.65	13.22	12.39	11.77	
	NO	76-162		4-92	251		05 35 24.51	-05 11 58.2	1				11.55	10.98	10.41	2,32
1231						*	05 35 24.60	-05 11 29.7	3				12.30	11.03	10.39	
1232						*	05 35 24.64	-05 19 09.7	4				12.06	10.92	10.30	
1233						*	05 35 24.65	-05 11 58.9	3-4				11.55	10.98	10.41	2,33
1234							05 35 24.67	-04 49 42.9	3				12.34	11.53	11.35	
1235							05 35 25.10	-04 48 06.1	5							34
	NT	76-166		4-241	265		05 35 25.11	-06 47 56.6	3	15.24	13.94	12.78	11.37	10.47	9.97	
1236							05 35 25.16	-04 33 51.6	3	17.22	15.20	13.40	13.19	12.51	12.21	35
1237							05 35 25.22	-05 29 51.6	1-4				10.98	13.09	12.39	
1238							05 35 25.36	-04 33 48.9	1	17.22	15.20	13.40	13.23	12.61	12.32	36
				4-356	252		05 35 25.38	-05 53 21.5	3				11.61	10.58	9.95	
		76-165					05 35 25.50	-05 45 44.9	3		18.24	14.91	13.27	11.89	11.03	
		76-163		4-42	249		05 35 25.51	-04 51 20.6	4				12.29	11.28	10.69	
1239						JW784	05 35 25.55	-05 30 19.8	4				12.9	11.02	10.25	28,37
1240							05 35 25.56	-04 41 09.0	3				15.76	13.35	12.54	
	V417			4-358	255		05 35 25.60	-05 30 20.8	1-2				11.02	10.25	9.70	38
1241						*	05 35 25.65	-05 07 57.3	2-3	16.14		11.60	11.70	10.75	10.27	
1242							05 35 25.68	-04 49 31.3	4				12.93	12.24	11.95	
1243						*	05 35 26.17	-05 45 08.5	2			13.96	12.44	11.61	11.24	
1244						*	05 35 26.17	-05 30 18.1	4				12.45	11.54	10.99	
1245							05 35 26.32	-04 49 26.4	3-4				13.22	12.55	12.28	
1246						*	05 35 26.45	-05 30 16.5	2-3				12.91	12.23	11.81	
	V563			4-53 4-362	254 264		05 35 26.59	-04 56 06.7	3	19.42	16.69	13.15	11.86	11.16	10.93	
							05 35 26.59	-06 15 32.7	1	17.33	15.16	13.41	13.17	12.44	12.22	25,39
1247							05 35 26.75	-04 48 18.4	3				16.24	15.68	15.60	
1248							05 35 27.10	-06 45 48.5	3	21.13	19.46	15.77	13.21	12.33	11.96	
		76-169					05 35 27.17	-06 19 42.0	1	16.91	14.23	13.07	11.29	10.49	10.14	
1249						*	05 35 27.20	-05 30 24.7	4				12.18	11.38	11.05	
1250						*	05 35 27.47	-05 09 44.1	3			14.03	11.77	10.51	9.83	
1251						*	05 35 27.64	-05 42 54.2	5				12.06	11.05	10.59	2,40
				4-164	263		05 35 27.66	-05 42 55.1	2				12.06	11.05	10.59	2,41
	V798	76-171		4-364	270		05 35 27.91	-06 14 15.1	3	18.68	15.04	13.85	12.38	11.27	10.60	
	V564	76-170		4-363	269		05 35 27.93	-06 09 39.1	1	16.70	14.92	13.49	12.12	11.38	11.16	
1252						*	05 35 27.97	-05 29 31.1	4-5				13.14	11.51	10.33	
1253							05 35 28.06	-06 21 33.2	2	19.84	17.86	15.57	13.84	13.22	12.87	
	V419	76-167		4-87	261		05 35 28.15	-05 10 13.9	3				13.66	10.98	9.97	9.41
1254						*	05 35 28.17	-05 00 49.6	1	18.35	16.02	14.04	12.50	11.77	11.54	
1255							05 35 28.28	-06 30 22.2	2-3	19.99	17.76	15.61	13.84	13.20	12.88	
		76-172		4-195	268		05 35 28.32	-05 59 13.3	4				12.32	11.52	11.09	
1256							05 35 28.34	-06 01 00.7	4		19.89	17.30	14.94	14.36	14.00	
1257							05 35 28.38	-04 34 31.0	3	20.64	19.00	16.59	14.35	13.78	13.41	
1258							05 35 28.40	-05 56 28.0	3				13.06	12.27	11.86	
1259						*	05 35 28.42	-05 19 02.1	4-5				13.32	12.68	12.30	
1260							05 35 28.51	-04 42 37.1	1			14.38	12.60	11.88	11.62	
1261							05 35 28.59	-06 30 03.8	1	19.78	17.44	15.43	13.85	13.15	12.75	
1262							05 35 28.64	-04 47 26.5	4				12.53	11.68	11.20	
1263							05 35 28.66	-04 02 58.2	3	19.68	17.81	15.38	13.80	13.21	13.01	
	V418	76-168		4-361	260		05 35 28.69	-04 48 16.4	4-5				15.79	14.42	12.88	
1264							05 35 28.98	-04 25 09.3	2-3	18.24	16.91	15.26	13.90	13.16	12.92	
1265						*	05 35 29.09	-05 29 10.3	3				11.60	10.71	10.33	
1266							05 35 29.21	-06 16 29.7	1	17.77			12.09	11.28	10.86	
1267						*	05 35 29.31	-05 45 38.2	1-2			14.50	12.94	12.25	12.02	
1268							05 35 29.40	-04 38 20.5	2	18.25	16.59	14.23	12.58	12.00	11.69	
1269							05 35 29.90	-05 12 10.4	1				12.66	12.06	11.74	
1270						*	05 35 29.99	-05 12 27.5	4				12.08	11.31	10.78	
1271							05 35 30.03	-04 34 27.7	3	18.61	16.75	14.81	13.12	12.46	12.25	
		76-176		4-367	278		05 35 30.16	-06 12 06.0	1	16.58	15.00	13.91	12.50	11.80	11.64	
1272						*	05 35 30.42	-05 34 38.6	1				12.39	11.68	11.41	
1273							05 35 30.44	-06 05 00.8	4-5	19.90	18.98	16.96	14.43	13.92	13.53	
1274							05 35 30.58	-05 51 55.4	4				12.46	11.48	10.92	
1275						*	05 35 30.70	-05 18 07.1	4-5				12.42	11.35	10.91	
1276						*	05 35 30.80	-05 30 36.2	3				12.31	11.51	11.03	
1277							05 35 30.80	-05 51 51.0	4-5				13.12	11.93	11.35	
	AL	76-175	143	4-51	263		05 35 30.90	-04 55 17.9	3		16.45	12.89	11.86	11.07	10.67	
1278							05 35 30.91	-06 50 35.0	4	19.77	17.02	15.79	14.75	14.15	13.87	
1279							05 35 30.93	-05 55 42.3	3				13.36	12.73	12.40	
1280						JW862	05 35 31.01	-05 18 45.3	4-5			15.2				28
	TW	76-183	145	4-239	286		05 35 31.05	-06 45 18.1	3	15.88	13.90	12.95	11.55	10.85	10.52	
1281							05 35 31.25	-05 58 33.4	3				12.65	11.91	11.73	
		76-178		4-109			05 35 31.27	-05 18 55.9	3				10.78	10.00	9.50	
1282							05 35 31.49	-06 14 18.9	1	18.03	15.83	14.40	13.04	12.39	12.21	
	V422	76-177		4-77	272		05 35 31.50	-05 05 01.7	4	16.12	15.14	13.37	12.12	11.31	10.82	
1283							05 35 31.70	-04 41 07.7	4		18.69	15.30	13.33	12.47	12.18	
				4-370	285		05 35 31.81	-06 06 29.4	2	16.56	14.79	13.59	11.93	11.21	11.06	

Table 3. continued.

ESOHa α	GCVS	KisoH α	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1284							05 35 31.89	-06 36 25.5	4-5	20.30	17.88	16.49	14.11	13.19	12.48	
	V360	76-180	144	4-84	277		05 35 31.95	-05 09 28.0	2			10.88	9.31	8.45	8.03	
1285							05 35 32.02	-04 38 34.2	4	20.40	18.27	16.86	14.46	13.74	13.34	
1286						*	05 35 32.18	-05 11 58.0	3				12.63	11.76	11.38	
	V565	76-179		4-27	271		05 35 32.22	-04 46 57.2	3			12.92	11.78	10.74	10.17	
1287						*	05 35 32.54	-05 02 09.8	4	20.04	18.48	17.04	14.74	14.10	13.81	
1288							05 35 32.58	-04 50 06.9	3				11.28	10.50	10.30	
1289							05 35 32.62	-05 05 38.4	5				16.14	15.08	14.47	
		76-181		4-22	276		05 35 33.00	-04 43 58.9	3		16.83	12.41	11.41	10.62	10.41	
1290							05 35 33.34	-04 51 11.4	3				12.70	11.83	11.43	
1291						*	05 35 33.34	-05 11 45.6	5				16.88	15.94	14.88	
1292							05 35 33.46	-04 56 01.8	1-2			14.64	12.96	12.32	12.06	
1293							05 35 33.57	-06 02 20.3	2	18.28	15.85	13.75	12.27	11.57	11.35	
		76-184		4-25	280		05 35 33.69	-04 46 23.8	3		17.84	13.61	12.08	11.19	10.84	
1294						*	05 35 33.85	-05 38 20.7	1				13.30	12.61	12.38	
1295						*	05 35 33.87	-05 09 06.0	1-4				14.05	13.43	13.14	
		76-186					05 35 33.93	-06 14 32.8	4	18.88	16.59	14.65	12.75	12.11	11.81	
1296							05 35 34.09	-04 32 37.0	1	15.97	16.39	14.38	12.81	12.17	11.91	
						WBHa 21	05 35 34.12	-07 14 57.6	1	19.12	16.25	15.01	13.23	12.48	12.24	
1297							05 35 34.38	-06 05 42.7	2-3	16.91	15.19	13.32	11.74	11.03	10.78	
				4-17	279		05 35 34.47	-04 40 20.7	2		16.41	14.09	12.16	11.09	10.60	
1298							05 35 34.50	-05 13 07.7	2				14.17	13.56	13.33	
	V423	76-185		4-26	281		05 35 34.51	-04 46 54.9	2		18.47	13.65	12.50	11.54	11.01	
1299						*	05 35 34.62	-05 15 52.8	5				13.31	12.60	12.08	
1300						*	05 35 35.14	-05 33 49.2	4				15.55	14.84	14.40	
1301						*	05 35 35.15	-05 21 23.7	3					11.90	11.26	42
1302							05 35 35.22	-04 47 39.7	1		18.90	15.09	12.35	11.53	11.26	
1303							05 35 35.25	-06 48 41.9	2	18.83	17.07	15.51	13.65	13.03	12.79	
	AM	76-188	146	4-111	288		05 35 35.29	-05 21 27.1	4					10.35	9.82	43
1304						*	05 35 35.39	-05 08 46.9	4-5				14.08	13.30	12.81	
1305							05 35 35.52	-05 58 19.1	3				13.61	12.69	12.30	
1306							05 35 35.54	-04 25 23.2	3	19.66	17.91	15.74	13.75	13.10	12.82	
1307						*	05 35 35.60	-05 39 08.2	4				13.81	12.88	12.14	
1308						*	05 35 35.61	-05 15 43.2	3				11.79	10.95	10.56	
1309						*	05 35 35.95	-05 38 42.7	1				12.91	12.25	11.97	
	NY	76-189	148		292		05 35 36.01	-05 12 25.3	3-4				10.60	9.39	8.39	
1310							05 35 36.11	-05 56 53.3	1				12.86	12.23	12.00	
							05 35 36.35	-05 31 37.9	4			14.34	12.50	11.67	11.08	
	TV	76-191	147	4-129	294		05 35 36.42	-05 01 15.6	1	14.23	12.44	11.46	10.31	9.57	9.13	
		76-187		4-1	284		05 35 36.43	-04 16 20.0	3	17.31	16.16	14.49	13.04	12.25	11.84	
	V568	76-192		4-133	295		05 35 36.44	-05 34 11.1	2-3			13.01	11.78	10.88	10.41	
	V424			4-73	291		05 35 36.69	-05 04 14.5	2-3	15.97	14.85	13.00	11.83	11.25	10.77	
				4-372	289		05 35 36.71	-05 58 56.3	2		16.65	14.22	12.66	12.00	11.76	
1311						*	05 35 36.72	-05 10 00.4	4			15.07	13.31	12.48	11.94	
		76-194		4-373	296		05 35 37.33	-06 23 26.4	2	17.11	15.43	13.92	12.52	11.87	11.61	
1312							05 35 37.34	-06 00 00.2	1		16.76	14.63	13.15	12.45	12.21	
1313							05 35 37.47	-05 51 28.1	4			13.31	12.54	12.21		
1314						*	05 35 37.69	-05 06 32.1	3	17.96		14.43	13.00	12.27	11.99	
1315							05 35 38.01	-04 52 29.6	3-4				13.78	13.02	12.61	
1316							05 35 38.44	-05 52 45.7	4-5				14.58	13.94	13.63	
1317							05 35 38.49	-04 38 32.3	4	18.53	16.66	15.10	13.55	12.79	12.34	
		76-193		4-63	297		05 35 38.53	-04 59 41.2	3	17.19	14.96	13.85	12.04	10.87	10.35	
1318							05 35 38.59	-06 23 43.1	1	17.72	14.52	14.91	13.41	12.75	12.47	
1319						*	05 35 38.63	-05 09 56.6	2			15.23	13.12	12.49	12.12	
1320							05 35 38.73	-05 16 59.1	4				13.66	12.48	11.71	
1321							05 35 39.07	-04 17 43.7	3	20.84	18.30	16.22	14.28	13.62	13.22	
						WBHa 22	05 35 39.36	-07 20 38.3	3	19.41	17.10	15.07	13.73	13.10	12.86	
1322							05 35 39.74	-05 56 55.1	1				14.07	13.42	13.12	
1323							05 35 39.77	-04 40 24.3	2	15.18	18.93		11.56	10.68	10.33	
1324							05 35 39.95	-04 21 02.2	3	19.32	17.39	15.66	13.71	13.10	12.81	
1325						*	05 35 39.96	-05 06 36.8	4-5				12.66	11.41	10.80	
1326							05 35 40.02	-04 45 55.4	1-2	18.18	16.30	13.16	11.47	10.77	10.42	
		76-196		4-52	298		05 35 40.40	-04 55 44.0	4			14.76	13.28	12.57	12.20	
1327							05 35 40.50	-04 52 26.1	3				12.86	11.99	11.62	
		76-195		4-11	293		05 35 40.55	-04 35 19.0	3		14.38		12.30	11.24	10.65	
1328						*	05 35 40.77	-05 11 11.9	2-3				13.80	13.05	12.72	
1329							05 35 40.83	-06 18 06.7	2	17.99	16.07	14.63	13.16	12.46	12.21	
1330						*	05 35 40.91	-05 22 02.4	4				13.61	12.54	11.75	
1331							05 35 40.93	-04 34 38.5	4	18.03	16.16	15.37	12.89	11.33	10.27	
	V571	76-199	474	4-216	306		05 35 41.02	-06 22 45.4	3	15.48	13.60	12.49	10.91	10.03	9.70	
1332							05 35 41.15	-04 20 35.4	2-3	21.09	19.47	17.24	14.99	14.37	13.96	
1333						*	05 35 41.32	-05 27 50.4	4-5				12.50	11.68	11.20	
1334						*	05 35 41.73	-05 03 29.1	3	20.24	17.49	15.35	13.44	12.77	12.52	
1335							05 35 41.86	-05 52 29.6	1-2				12.96	12.31	12.05	
1336						*	05 35 42.01	-05 10 11.5	2			14.40	11.60	10.15	9.47	
1337							05 35 42.20	-06 15 14.4	2	20.15	17.32	15.85	13.92	13.33	13.08	
1338							05 35 42.22	-06 11 43.8	4-5	20.69	18.41	16.37	14.37	13.74	13.47	
1339						*	05 35 42.30	-05 15 08.0	4				13.77	12.44	11.67	
1340							05 35 42.41	-04 42 57.0	2-3			17.78	15.90	15.01	14.21	
1341						*	05 35 42.69	-05 10 16.4	5				17.15	14.78	14.12	13.70
1342							05 35 42.72	-04 05 52.0	3	20.36	18.86	15.51	13.98	13.36	13.07	
	V573	76-202	151	4-231	312		05 35 42.76	-06 34 51.9	4	15.69	15.69	14.00	12.37	11.58	11.16	
				4-376	308		05 35 42.84	-06 21 44.6	1	17.25	15.32	14.10	12.98	12.25	11.96	
1343						*	05 35 43.00	-05 23 02.4	3				12.96	11.95	11.39	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1344						*	05 35 43.03	−04 47 00.3	2		17.14	13.99	13.19	12.44	12.18	
1345						*	05 35 43.06	−05 03 07.5	2	20.04	17.20	15.05	13.34	12.58	12.28	
	BO	76-198	149	4-5	300	San3	05 35 43.11	−04 24 55.7	2	15.32	12.50	11.81	11.05	10.27	9.79	
1346							05 35 43.37	−06 22 19.6	3	20.08	16.29	14.20	12.10	11.21	10.67	
	AO	76-200		4-76	303		05 35 43.56	−05 05 41.5	3	14.20	14.87	13.86	12.10	11.02	10.26	
1347							05 35 43.80	−05 09 58.8	4	20.59	19.25	15.72	13.66	13.09	12.71	
1348							05 35 44.04	−04 16 02.1	4	19.58	17.54	15.83	14.05	13.50	13.21	
1349						*	05 35 44.09	−05 08 37.6	4	18.66		15.93	14.08	13.09	12.44	
	OP	76-201		4-32	302		05 35 44.13	−04 48 04.8	2		17.67	13.64	12.06	11.20	10.72	
1350						*	05 35 44.17	−05 36 39.8	4				12.41	11.78	11.41	
1351							05 35 44.18	−06 28 16.4	4-5	20.39	18.34	16.30	14.12	13.61	13.15	
1352							05 35 44.46	−04 36 37.0	2	20.40	18.36	16.45	14.57	14.01	13.75	
1353						*	05 35 44.52	−05 36 33.2	2				12.81	12.13	11.85	
1354							05 35 44.60	−04 59 57.8	4		18.48	17.38	14.87	14.22	13.91	
1355							05 35 45.09	−04 26 36.2	4	19.65	17.62	16.25	14.03	13.41	13.07	2,13
1356							05 35 45.10	−04 51 41.8	1-2				12.98	12.31	12.04	
1357							05 35 45.38	−05 28 10.8	3				11.73	10.85	10.37	
1358							05 35 45.59	−05 57 30.3	1		17.58	15.36	13.81	13.18	12.96	
1359							05 35 45.93	−06 25 59.1	1	20.50	15.81	15.05	11.99	10.51	9.67	
1360						*	05 35 46.12	−05 10 51.8	3	17.61	15.69	12.37	11.73	10.89	10.43	
1361							05 35 46.24	−05 18 08.5	1-2				12.19		10.86	
1362						*	05 35 46.24	−05 15 39.8	3				12.57	11.38	10.72	
1363							05 35 46.61	−05 22 24.3	2				12.46	11.84	11.55	
	CF	76-207		4-182	318		05 35 46.69	−05 49 26.3	3	19.82	14.92	13.15	11.56	10.79	10.43	
1364				4-379	311		05 35 46.85	−02 50 53.9	1	18.79	17.25	15.21	13.48	12.89	12.60	
							05 35 47.07	−06 11 45.3	4	20.77	18.44	16.25	13.86	13.25	12.97	
1365							05 35 47.24	−05 17 43.5	3				13.13			
	V574	76-208		4-86	314		05 35 47.42	−05 10 28.5	3	10.18	12.31	10.29	11.38	10.40	9.77	
1366							05 35 47.48	−05 22 49.5	1				11.89	11.19	10.97	
1367						*	05 35 47.65	−05 19 14.5	3				12.97	11.73	11.00	
1368						*	05 35 47.65	−05 37 38.8	4			16.35	12.96	11.93	11.30	
	V814	76-211		4-215	322		05 35 47.65	−06 21 36.1	4	17.20	15.42	14.50	12.58	11.91	11.39	
1369							05 35 47.69	−05 58 06.1	1		17.54	15.47	13.66	13.06	12.82	
1370							05 35 47.93	−07 27 52.7	3	19.45	17.64	15.84	13.97	13.34	13.08	
1371							05 35 48.07	−04 50 20.4	2	20.10		15.14	13.21	12.65	12.30	
	V812	76-210		4-381	320		05 35 48.13	−05 53 57.3	3		16.80	15.13	12.82	11.62	11.00	
		76-205		4-1a	307		05 35 48.21	−04 13 11.6	4-5	18.14	16.52	16.33	14.55	13.98	13.61	
1372							05 35 48.28	−06 17 59.4	1	16.73	15.78	14.11	12.80	12.10	11.90	
	CE	76-209	152	4-66	313		05 35 48.38	−05 01 28.8	3	13.84	15.39	12.84	12.15	11.14	10.53	
1373							05 35 48.39	−06 17 36.2	2	18.91	16.03	14.56	13.01	12.35	12.11	
1374							05 35 48.49	−04 19 42.6	4-5	20.99	19.78	17.84	15.18	14.60	14.31	
1375							05 35 48.53	−05 56 23.2	2		16.34	14.67	13.31	12.50	12.00	
1376							05 35 48.60	−06 05 25.7	3	18.47	16.78	14.97	13.38	12.81	12.50	
1377							05 35 48.73	−05 19 27.5	2				13.10	12.37	12.13	69
	V1001	76-212		4-207	328		05 35 48.87	−06 12 07.9	2	14.28	12.70	12.06	11.09	10.32	9.96	
	V1018		477	4-69	317		05 35 48.98	−05 01 39.4	1	16.73	15.48	13.83	12.57	11.83	11.50	
	V989			4-385	330		05 35 49.14	−06 41 03.1	1-2	17.36	15.23	13.77	12.46	11.77	11.51	
1378							05 35 49.16	−05 56 18.3	2		17.62	15.34	13.65	13.07	12.79	
1379							05 35 49.24	−05 59 14.2	1	19.93	16.73	15.10	13.63	12.98	12.74	
				4-360	259		05 35 49.46	−03 32 51.8	4	17.64	15.72	14.11	12.64	12.00	11.57	
				4-380	319		05 35 49.86	−04 46 32.3	3-4		17.98	14.34	12.49	11.83	11.46	
1380						*	05 35 49.88	−05 18 30.9	3-4				12.76	11.59	10.84	
1381						*	05 35 50.04	−05 17 18.1	4-5				15.03	14.10	13.51	
	V364			4-110	321		05 35 50.19	−05 21 17.0	3				13.03	12.22	11.84	
	AT	76-215		4-244	334		05 35 50.19	−06 50 40.2	2	16.07	14.50	13.53	13.01	11.82	10.86	
1382							05 35 50.25	−06 33 35.6	2	18.27	16.32	14.63	12.99	12.35	12.11	
	OU			4-384	329		05 35 50.47	−05 51 42.2	1	17.03	13.90	12.63	11.26	10.52	10.14	
1383							05 35 50.66	−04 40 37.0	3		18.82	15.26	13.80	12.63	11.99	
	OT	76-213	153	4-104	326		05 35 50.77	−05 16 29.2	2-3			12.99	11.36	10.48	10.06	
	V575			4-383	325		05 35 51.10	−05 07 08.9	2	15.44	14.25	12.38	10.98	10.20	9.87	
1384							05 35 51.18	−04 56 27.7	3		12.96	17.09	13.33	12.14	11.54	
		76-217		4-204	333		05 35 52.02	−06 10 01.7	3	15.23	13.23	11.70	9.73	8.62	8.01	
		76-214		4-20	324		05 35 52.25	−04 43 04.9	3		15.30	12.97	11.86	11.06	10.85	
1385						*	05 35 52.33	−05 12 57.0	1				12.91	12.27	11.99	
1386							05 35 52.56	−07 56 13.8	2	18.10	16.02	14.30	12.32	11.68	11.47	
1387						*	05 35 52.76	−05 12 59.0	1	18.01		12.23	11.51	10.70	10.32	
1388							05 35 52.98	−04 17 39.7	3	20.06	17.66	15.84	13.87	13.29	12.96	
1389							05 35 53.54	−05 20 27.3	5				16.52	15.20	14.23	
1390						*	05 35 53.72	−04 57 56.4	2		17.20	15.40	14.45	13.81	13.55	
	AS			4-24	331		05 35 54.06	−04 47 19.4	4	17.96	12.16	13.86	12.39	11.57	11.04	
	AR	76-218	155	4-72	332		05 35 54.06	−05 04 14.8	3	14.28	13.41	11.78	10.87	10.33	9.83	2,11
1391							05 35 54.15	−05 17 10.4	4				13.59	12.71	12.25	
1392						*	05 35 54.21	−05 05 45.5	1	17.51	17.10	14.82	13.55	12.83	12.65	
	OW	76-220		4-120	335		05 35 54.33	−05 26 44.5	2				11.96	11.06	10.41	
1393							05 35 54.49	−04 41 12.1	1	18.18	16.54	13.83	13.23	12.54	12.32	5
	OX					Ton 3	05 35 54.63	−05 27 07.6	2-3				12.28	11.62	11.39	
1394							05 35 54.68	−05 54 36.7	1	17.88	17.04	15.22	13.59	12.93	12.70	
1395						*	05 35 54.70	−05 06 27.9	3	20.10	18.93	15.53	13.49	12.88	12.59	
1396							05 35 55.13	−06 10 09.4	3	18.98	16.88	14.90	12.97	12.30	12.10	
1397W						*	05 35 55.32	−05 47 00.7	3	19.46	17.38	14.44	12.99	12.42	12.12	2
1397E						*	05 35 55.38	−05 47 02.3	1	19.46	17.38	14.44	12.99	12.42	12.12	2
1398							05 35 55.44	−05 23 43.0	2				13.30	12.66	12.42	
		76-221		4-181	339		05 35 55.74	−05 49 29.4	3	19.31	16.63	15.64	13.10	12.22	11.74	
1399						*	05 35 55.75	−05 04 37.6	4-5		18.44	18.75		16.43	14.73	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1400							05 35 56.02	-05 00 51.5	2		17.86	16.01	14.09	13.12	12.77	
1401							05 35 56.41	-04 11 28.4	1	18.40	16.73	14.89	13.32	12.68	12.43	
1402						*	05 35 56.77	-05 19 57.9	4-5				13.54	12.83	12.36	
				4-172	338		05 35 56.90	-05 45 19.1	3	20.06	17.98	14.75	12.57	11.45	10.82	
		76-223		4-225	344		05 35 56.96	-06 29 38.1	4	19.09	17.20	15.09	12.63	11.87	11.36	
	V576	76-226		4-233	348		05 35 57.30	-06 40 28.1	4	17.35	15.62	14.34	12.86	12.14	11.81	
		76-225					05 35 57.31	-06 15 37.7	1	17.07	15.24	14.15	12.62	11.90	11.45	
	V577	76-227	158	4-237	349	Nk 34	05 35 57.45	-06 42 41.9	2	14.77	13.24	12.38	10.96	10.14	9.65	
	AU	76-224	157	4-189	342		05 35 57.65	-05 57 18.3	4	17.23	14.38	13.43	12.10	11.36	10.83	
	V428			4-114	340		05 35 57.72	-05 23 09.3	1			13.66	12.14	11.48	11.09	
		76-228		4-386	343		05 35 57.85	-06 23 44.4	3	17.64	16.31	14.23	12.84	12.30	12.01	
1403							05 35 57.98	-06 08 13.8	3	18.87	17.26	14.82	12.82	12.22	11.90	
	OY	76-230		4-232	346		05 35 58.25	-06 36 43.1	2	16.07	15.48	12.93	11.71	10.85	10.38	
1404		76-222		4-9	337		05 35 58.29	-06 22 11.6	4-5	20.36	19.48	17.08	13.81	13.18	12.86	
1405							05 35 58.61	-04 29 24.2	4	17.00	14.91	13.85	12.25	11.42	10.96	
1406						*	05 35 58.81	-06 12 43.8	2	19.21	17.06	15.48	13.78	13.16	12.90	
	V654	76-229			345		05 35 58.82	-05 10 14.6	4	20.56	19.23	17.46	15.31	14.69	14.31	
1407						*	05 35 58.92	-06 02 39.7	4-5	17.13	16.86	16.95	14.63	13.89	13.40	
				4-388	350		05 35 58.94	-05 32 53.9	4				14.40	13.18	12.53	
1408						*	05 35 58.97	-05 59 08.5	1	17.85	15.64	14.27	12.97	12.30	12.09	
						WBHa 33	05 35 59.23	-05 07 33.5	4-5	16.33		17.13	14.92	14.17	13.93	
1409							05 35 59.23	-06 49 51.9	1	17.91	15.91	14.48	13.02	12.29	12.12	
1410						*	05 35 59.48	-05 37 09.6	2				12.78	11.96	11.68	
1411						*	05 35 59.52	-05 29 43.5	2				10.86	9.69	8.86	2,44
						*	05 35 59.66	-05 29 43.6	3				10.86	9.69	8.86	2,45
1412				4-389	351		05 35 59.75	-06 16 06.6	1-2		13.12	11.29	10.55	9.89	9.54	
1413						*	05 35 59.84	-06 42 30.5	4				13.44	12.74	12.24	46
	AV	76-231	159	4-236	354	Nk 35	05 35 59.94	-05 04 30.8	4-5	20.43	19.57	16.41	13.53	12.88	12.53	
1414						*	05 36 00.18	-06 42 33.9	3	14.25	12.59	11.68	10.94	10.05	9.48	47
1415						*	05 36 00.28	-06 23 47.3	1	18.33	16.34	14.76	13.07	12.46	12.21	
1416						*	05 36 00.31	-05 34 23.5	1				13.95	12.66	12.06	11.81
1417							05 36 00.34	-05 04 59.8	1-2	17.14	15.67	13.81	12.50	11.85	11.60	48
1418							05 36 00.87	-04 42 58.8	4	19.91	17.60	15.12	13.33	12.67	12.32	
	V393	76-232		4-210	359	Ton12	05 36 01.09	-06 25 07.7	2	18.01	16.26	14.25	12.98	12.27	12.10	
1419							05 36 01.10	-06 15 31.4	1	16.46	14.68	13.55	12.18	11.44	11.05	
1420							05 36 01.66	-06 42 36.2	4	19.94	17.68	15.67	13.35	12.73	12.33	
1421							05 36 02.04	-04 30 43.0	1	18.64	16.78	14.96	13.59	12.91	12.67	
1422						*	05 36 02.64	-04 50 00.1	4	20.96	13.98	16.69	14.49	13.91	13.56	
1423						*	05 36 02.76	-05 15 27.0	2			15.01	12.85	12.01	11.64	
1424						*	05 36 02.89	-06 50 42.2	1	17.09	15.14	13.74	12.30	11.60	11.38	
1425							05 36 03.86	-05 30 18.8	3-4				13.54	12.84	12.51	
						WBHa 38	05 36 04.16	-05 04 08.9	3	19.40	17.37	15.20	12.93	12.12	11.73	
						Xray 31	05 36 04.35	-06 34 39.0	1	18.10	16.20	14.72	13.36	12.71	12.47	
1426							05 36 04.61	-06 11 27.1	1	15.95	14.06	12.95	11.08	10.30	10.02	
		76-236		4-394	366		05 36 04.88	-04 12 58.1	2	19.04	17.03	15.20	13.52	12.87	12.64	
1427							05 36 04.98	-06 46 41.4	1	15.83	13.30	12.47	11.03	10.34	10.12	
	AW	76-235		4-393	365		05 36 05.00	-06 42 44.0	2	18.47	16.28	14.34	12.31	11.65	11.30	
1428						*	05 36 05.08	-06 29 32.2	3-4	15.01	13.98	13.85	12.37	11.27	10.49	
1429							05 36 05.12	-05 11 13.8	4	20.28	18.66	16.66	13.98	13.28	12.88	
1430							05 36 05.16	-06 25 25.4	1	16.38	14.24	13.15	11.82	11.09	10.91	
1431							05 36 05.31	-04 53 16.3	2		18.11	15.45	13.73	13.15	12.83	
		76-233		4-391	357		05 36 06.29	-06 03 15.5	3	20.41	18.64	16.74	14.72	14.11	13.80	
1432						*	05 36 06.42	-04 41 53.9	5	17.42	15.80	13.07	11.65	11.00	10.71	
1433						*	05 36 06.51	-03 15 49.2	2	20.06	17.64	15.76	14.00	13.41	13.13	
1434							05 36 06.60	-05 41 54.4	4-5		18.60	18.13	13.46	12.90	12.61	8
	AX	76-241		4-209	369		05 36 06.65	-06 32 17.2	2	17.44	14.85	12.73	12.13	10.66	9.68	
1435							05 36 06.66	-06 14 25.9	1	15.54	13.63	12.33	11.53	10.72	10.10	49
1436							05 36 06.72	-06 14 23.6	2-3							50
		76-234		4-4	352		05 36 06.80	-05 06 15.6	1	17.92	16.13	14.42	13.02	12.28	12.07	
1437							05 36 06.90	-04 20 37.6	3	17.65	14.61	13.37	12.43	11.61	11.15	
1438							05 36 06.97	-03 36 15.7	1	17.09	15.27	14.18	12.80	12.06	11.88	
	V579	76-238		4-132	362		05 36 07.01	-06 01 50.2	4-5	20.56	19.43	16.95	14.45	13.59	13.15	
	V501	76-240		4-163	364		05 36 07.04	-05 34 18.3	3			13.87	12.34	11.13	10.23	
		76-239		4-153	363		05 36 07.29	-05 42 21.7	3	14.34	13.37	12.09	11.27	10.44	9.89	
1439							05 36 07.30	-05 40 22.2	1	16.50	15.01	12.85	11.19	10.26	9.90	
	CH	76-237		4-16	360		05 36 07.39	-05 30 27.5	1				13.00	12.38	12.05	
	AY	76-244		4-398	377		05 36 08.09	-04 41 20.6	2	16.15	14.64	12.85	12.04	11.18	10.71	
1440							05 36 08.29	-06 48 36.3	3	16.00	14.61	13.66	12.08	11.13	10.63	
1441							05 36 08.34	-06 24 37.9	3	19.65	17.14	15.09	12.70	12.08	11.74	
1442						*	05 36 08.40	-04 28 52.6	3	17.10	15.68	14.32	12.44	11.65	11.22	
1443						*	05 36 08.69	-05 21 02.2	1-2	17.82		13.69	12.33	11.59	11.36	
1444						*	05 36 08.74	-04 12 54.9	2	17.68	15.81	14.30	12.88	12.18	11.93	
1445						*	05 36 09.18	-05 36 38.0	3	17.57	16.31	13.44	12.25	11.55	11.13	2,51
		76-242		4-35	361		05 36 09.26	-05 31 09.7	4-5			16.21	14.06	13.31	12.77	
		76-243		4-395	368		05 36 09.28	-04 50 00.8	3-4	17.33	16.26	14.39	12.80	12.09	11.80	
1446							05 36 09.30	-05 36 39.2	2	17.57	16.31	13.44	12.25	11.55	11.13	2,52
1447							05 36 09.52	-06 24 33.7	4-5	20.18	18.59	16.57	14.64	14.08	13.74	
1448							05 36 09.67	-06 10 29.9	1	14.78	13.27	12.31			10.25	2,13
1449							05 36 09.94	-04 26 56.7	1-2	18.82	16.98	15.29	13.79	13.09	12.88	
1450							05 36 09.98	-05 05 35.4	2-3	20.73	18.90	16.23	14.34	13.67	13.39	
	V391				378	Ton 10	05 36 10.06	-05 27 31.7	3-4				13.28	12.71	12.36	
1451							05 36 10.11	-05 22 05.0	2	16.77		13.07	11.74	11.22	10.89	
		76-246		4-162	372		05 36 10.13	-05 50 08.6	5		18.60	17.64	15.45	14.36	13.60	
							05 36 10.33	-05 42 27.0	3	17.13	15.77	13.70	11.59	10.16	9.14	

Table 3. continued.

ESOH α	GCVS	KisoH α	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
	V502	76-245		4-106	371		05 36 10.49	-05 19 44.9	3			12.18	11.49	10.79	10.59	
		76-247		4-152	376		05 36 10.97	-05 39 49.3	3	18.72	15.84	14.48	12.69	11.11	10.07	
1452							05 36 11.43	-03 37 15.5	3-4	18.36	16.12	14.39	13.08	12.40	12.14	
1453							05 36 11.46	-06 22 22.1	3	20.85	16.69	14.86	12.69	11.24	10.43	
	V580			4-64	367		05 36 11.80	-05 00 32.6	1-2	16.50	15.10	13.59	12.20	11.51	11.30	
				4-399	379		05 36 12.51	-05 40 45.4	4	19.73	17.71	15.35	13.40	12.24	11.40	
						Xray 33b	05 36 12.61	-06 23 39.6	4	18.84	14.79		12.74	11.80	11.36	
						Xray 33a	05 36 12.97	-06 23 33.0	1	15.81	12.61	10.51	11.48	10.47	10.04	
1454						*	05 36 13.38	-05 02 23.0	3	18.89	17.63	15.22	13.44	12.83	12.55	
1455							05 36 14.10	-07 24 39.9	1	18.66	16.59	15.07	13.49	12.86	12.59	
		76-250		4-206	380		05 36 14.76	-06 13 16.9	3	16.89	14.90	13.91	12.47	11.74	11.50	
		76-249					05 36 14.94	-05 15 33.7	1	16.62	15.20	13.05	11.81	11.09	10.71	
1456							05 36 15.57	-06 00 50.5	4	20.45	17.84	15.86	13.95	13.25	12.94	
1457							05 36 15.66	-05 43 55.9	5	21.13	18.66	17.30	14.78	14.16	13.85	
1458							05 36 15.78	-04 55 20.2	4		18.38	15.60	13.13	12.55	12.27	
		76-251		4-208	382		05 36 15.84	-06 14 50.7	3	17.65	15.53	14.45	13.01	12.29	12.08	
1459							05 36 16.35	-05 40 02.2	1	19.42	17.79	15.60	14.01	13.25	12.91	
1460							05 36 17.23	-06 17 24.5	2	18.21	16.11	14.00	12.22	11.60	11.32	
1461							05 36 17.69	-05 44 04.9	3	20.76	18.83	16.06	14.38	13.71	13.47	
1462							05 36 18.01	-06 10 02.8	1	18.48	16.71	15.20	13.60	12.97	12.70	
1463							05 36 18.21	-05 49 53.2	4-5		18.78	17.00	13.96	12.99	12.48	
	V832	76-253		4-213	388		05 36 18.48	-06 20 38.7	3	15.55	13.85	13.60	12.20	11.43	11.10	
1464							05 36 18.56	-05 54 28.5	1	18.06	16.56	14.40			12.44	39,53
1465							05 36 18.58	-04 53 15.3	3		18.49	18.12	16.51	15.39	14.72	
1466						*	05 36 18.79	-05 12 18.3	2	18.31	16.45	14.60	12.98	12.30	12.05	
1467							05 36 18.80	-05 54 27.9	4	18.06	16.56	14.40			13.52	39,54
						Strom 6	05 36 18.88	-06 22 04.2	2	18.23	16.20	14.71	13.70	13.03	12.78	55
1468							05 36 18.99	-04 53 50.4	2	19.39	17.15	14.84	13.34	12.74	12.43	
1469						*	05 36 19.26	-05 00 28.4	3-4	19.76	18.35	15.78	13.69	13.08	12.77	
1470							05 36 19.38	-06 25 51.3	4	19.87	17.51	15.27	13.16	12.36	11.80	
1471							05 36 19.54	-06 44 15.0	2	19.70	17.82	15.07	13.14	12.54	12.21	
		76-254		4-402	387		05 36 19.74	-05 48 23.6	4	18.35	17.35	15.48	13.11	11.93	11.09	
		76-252		4-401	385		05 36 19.76	-05 14 38.7	1	16.41	15.06	14.01	12.25	11.41	10.95	
1472						*	05 36 19.87	-05 13 06.5	4	19.27	17.98	15.81	13.64	12.95	12.55	
	V839	48-5			399		05 36 20.56	-07 05 31.8	3	17.10	14.74	13.85	12.16	11.40	11.16	
1473							05 36 21.10	-06 17 17.3	1-2	18.86	16.56	14.58	12.77	12.18	11.94	
			483			Nk40	05 36 21.41	-06 45 36.7	2	17.61	12.10	12.77	10.85	9.27	8.16	56
		76-255		4-75	386		05 36 21.76	-05 05 52.8	4	18.61	17.45	15.74	13.82	13.12	12.83	
	V582			4-218	390		05 36 21.84	-06 26 02.0	3-4	16.98	14.85	13.96	12.27	11.13	10.26	5
1474							05 36 21.96	-06 41 42.0	2	18.18	16.58	14.50	12.87	12.22	11.90	
						WBHa 50	05 36 22.19	-07 16 06.4	1	17.85	15.67	13.95	12.97	12.31	12.06	
1475							05 36 22.47	-06 23 44.8	4-5		18.55	17.11	13.91	12.46	11.58	
1476							05 36 22.87	-04 18 48.5	1	19.93	17.90	15.79	13.80	13.16	12.89	
1477							05 36 23.26	-06 19 37.5	1	18.73	16.32	14.81	13.21	12.57	12.36	
1478						*	05 36 23.39	-05 23 19.4	2	20.12	18.15	15.60	13.53	12.97	12.66	
1479						*	05 36 23.64	-05 22 46.3	4-5		18.83	18.05	15.01	13.55	12.60	
1480							05 36 23.69	-04 36 17.1	3	20.39	18.00	15.92	14.20	13.60	13.30	
		76-258		4-403	389		05 36 23.78	-06 23 11.3	4	16.27	12.75	12.55	14.40	12.65	11.11	
						WBHa 54	05 36 24.54	-06 52 34.2	4	19.54	17.52	15.45	13.50	12.85	12.53	
		76-260					05 36 24.72	-06 05 13.3	3	18.21	16.71	14.78	13.15	12.47	12.17	
1481							05 36 24.81	-06 17 31.1	2							57
1482							05 36 25.01	-05 23 32.2	2	19.95	17.56	15.72	13.59	12.62	12.26	
1483							05 36 25.13	-06 44 41.9	1	19.14	16.11	14.23	11.30	9.47	8.21	
1484						*	05 36 25.16	-05 19 13.3	3	20.26		15.21	13.09	12.51	12.24	
1485							05 36 25.26	-04 29 56.2	1	19.68	17.84	15.81	13.86	13.27	13.01	
1486							05 36 25.28	-06 23 07.2	3-4		19.35	17.02	14.73	14.15	13.95	
1487							05 36 25.41	-06 24 31.2	2	20.58	18.46	16.05	13.98	13.32	13.02	
1488						*	05 36 25.57	-05 18 42.0	3	19.97	18.86	14.78	13.41	12.78	12.48	
		76-261		4-203	393		05 36 26.11	-06 08 03.8	3	15.55	14.10	12.38	11.36	10.39	9.85	
1489						*	05 36 26.28	-05 18 30.2	3				13.41	12.72	12.40	
1490							05 36 26.47	-06 06 16.3	2	19.32	17.90	15.47	13.72	13.09	12.82	
1491							05 36 26.83	-06 24 57.5	2-3	19.01	16.88	15.01	13.16	12.59	12.28	
1492							05 36 26.85	-05 56 30.2	4-5	21.20	19.00	16.16	13.42	12.42	11.88	
1493							05 36 26.91	-04 55 06.2	3-4	20.39	18.25	16.19	14.03	13.42	13.03	
1494							05 36 26.96	-05 34 12.2	3		19.13	16.47	14.32	13.69	13.43	
	V951	76-264	163	4-125	394		05 36 27.54	-05 30 55.6	2		16.07	13.05	11.91	11.17	10.77	
1495						*	05 36 27.69	-05 42 21.7	2-3	18.45			12.70	11.95	11.64	
		76-267		4-406	398		05 36 27.72	-06 23 12.3	3	18.44	16.00	14.01	11.90	11.21	10.77	
1496							05 36 27.89	-03 13 36.7	2	20.04	17.81	15.83	13.85	13.20	12.93	
1497							05 36 27.89	-06 25 36.0	3	18.10	16.25	14.51	12.93	12.31	12.04	
1498							05 36 27.90	-04 58 06.8	1	19.42	17.43	15.08	13.80	13.14	12.88	
						WBHa 55	05 36 28.10	-06 44 32.6	2	16.82	15.04	14.19	12.83	11.97	11.68	
1499							05 36 28.74	-05 42 26.3	3	19.12	17.16	14.94	13.00	12.20	11.90	
1500						*	05 36 28.94	-05 39 15.5	4-5	20.18	18.55	16.29	15.61	14.67	13.86	
1501							05 36 29.06	-06 38 40.7	3-4	20.19	18.82	16.30	14.27	13.48	12.96	
1502							05 36 29.27	-02 58 02.6	3	18.83	16.87	14.88	13.28	12.66	12.23	
		76-266					05 36 29.28	-04 53 51.0	1	17.39	15.85	14.06	12.66	11.97	11.74	
1503							05 36 29.30	-04 43 59.9	1	19.02	17.43	15.19	13.60	13.01	12.66	
						WBHa 57	05 36 29.59	-06 38 50.4	1	19.06	17.57	15.48	13.79	13.07	12.86	
1504							05 36 29.81	-06 14 19.7	2	20.40	18.00	16.22	13.85	13.22	12.91	
1505							05 36 29.88	-05 51 33.4	1-2	18.39	16.75	15.21	13.62	12.99	12.72	
	V584	76-268		4-214	401		05 36 30.10	-06 23 10.2	2	17.28	14.63	13.90	12.17	11.04	10.32	
1506							05 36 30.17	-05 53 09.9	1	18.39	16.79	14.70	12.90	12.30	12.01	
1507							05 36 30.23	-06 42 46.1	2		18.76	16.23	13.42	11.94	11.26	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1508				4-407	402		05 36 30.96	-06 52 41.0	5	20.42	18.68	18.58	16.45	15.50	15.00	
1509							05 36 31.58	-06 08 27.1	2	15.12	13.40	12.02	10.49	9.60	9.07	5
							05 36 31.84	-06 23 23.1	3	21.11		17.06	14.94	14.30	13.85	
1510	V367	76-269		4-103	400		05 36 32.13	-05 17 13.5	3	16.06	14.50	13.17	12.32	11.33	10.67	
							05 36 32.20	-06 27 41.7	2		17.38	15.63	14.03	13.41	13.10	
						WBHa 58	05 36 32.42	-06 40 43.0	3	18.82	17.07	15.15	13.37	12.67	12.40	
1511							05 36 32.89	-06 44 20.9	4	20.93	17.48	15.99	13.02	11.52	10.68	
1512							05 36 33.01	-06 00 16.6	2	18.77	17.07	15.14	13.54	12.94	12.66	
1513							05 36 33.22	-06 08 55.2	4		18.96	16.66	13.55	12.68	12.15	
1514							05 36 33.35	-04 55 19.3	2	19.64	18.09	15.76	14.28	13.51	13.17	
1515						*	05 36 33.36	-05 45 35.5	2	19.27	17.50	15.72	13.95	13.27	13.02	
1516							05 36 33.38	-06 37 59.2	2	20.64	18.70	16.73	14.65	14.00	13.72	
1517							05 36 33.57	-05 51 12.1	4	20.95	19.21	17.08	14.47	13.78	13.31	
		76-271		4-192	403		05 36 33.69	-05 57 53.6	3	17.92	15.44	14.13	11.81	10.70	9.95	
1518						*	05 36 34.04	-05 34 05.4	3	18.13	16.69	14.60	13.25	12.58	12.32	
1519						*	05 36 34.37	-05 40 54.8	2	19.98	18.02	15.55	13.25	12.67	12.34	
1520							05 36 34.55	-06 53 07.7	5		19.67	17.52	14.45	13.44	12.95	
1521						*	05 36 34.93	-05 38 10.9	2	19.35	18.04	15.55	13.56	12.99	12.69	
1522							05 36 35.74	-04 11 41.2	3	18.25	16.64	14.63	13.06	12.41	12.17	
1523							05 36 35.76	-06 42 49.9	1-4	20.73	18.11	16.25	13.58	12.44	11.94	
		76-272		4-187	409		05 36 36.17	-05 55 28.9	3	15.69	13.99	13.12	11.61	10.61	9.99	
1524						*	05 36 36.33	-05 36 34.1	2	16.71	15.34	13.65	12.22	11.55	11.29	
1525							05 36 36.37	-05 54 36.8	3	20.01	17.90	15.68	13.79	13.22	12.94	
1526							05 36 36.86	-06 09 55.0	2	18.49	16.42	15.06	13.47	12.82	12.61	
	V585	76-274		4-227	410		05 36 36.93	-06 33 24.2	3	16.11	15.70	14.37	11.77	10.62	9.66	
	V657			4-70	407		05 36 37.05	-05 04 41.2	3-4	15.80	14.16	12.96	11.38	10.64	10.43	
	BC	76-273	166	4-119	408		05 36 37.21	-05 26 25.4	4	14.95	14.60	12.97	11.64	10.84	10.37	
1527							05 36 37.36	-04 37 25.7	2	20.91	18.50	16.03	13.60	12.96	12.61	
1528						*	05 36 37.39	-05 10 22.1	2-3	19.20	17.24	15.27	13.33	12.66	12.39	
1529							05 36 37.49	-06 16 07.7	4	21.09	19.54	17.11	14.56	13.96	13.64	
1530							05 36 37.51	-06 27 17.3	3	18.25	17.50	15.65	13.74	13.12	12.80	
1531							05 36 38.03	-06 24 25.2	2	19.01	17.11	15.39	13.79	13.14	12.91	
1532							05 36 38.48	-04 28 20.9	3	21.05	18.31	15.93	13.70	12.99	12.69	
1533							05 36 39.33	-06 30 11.1	3	18.73	16.70	15.03	13.34	12.67	12.46	
		76-275					05 36 40.05	-05 12 23.1	2	17.28	15.30	14.06	12.48	11.63	11.22	
1534						*	05 36 40.18	-05 07 29.2	3	18.81	18.27	16.13	13.78	13.18	12.91	
		76-276		4-205	413		05 36 40.39	-06 13 33.4	3	16.92	14.63	13.57	12.20	11.51	11.28	
				4-413	416		05 36 40.59	-06 10 33.3	3	17.25	14.30	14.29	12.65	11.21	10.44	
1535							05 36 40.76	-06 11 08.3	3	17.71	16.54	15.77	15.01	13.89	12.82	
1536							05 36 40.94	-06 41 17.8	2	19.70	17.40	15.00	13.03	12.17	11.81	
1537							05 36 41.21	-06 41 01.1	2	19.42	17.42	15.09	13.09	12.48	12.15	
	V846	76-277		4-230	412		05 36 41.35	-06 33 59.5	3	15.71	14.23	12.93	11.08	10.15	9.52	2,58
1538							05 36 41.38	-06 34 00.4	3				11.08	10.15	9.52	2,59
1539							05 36 41.67	-06 11 46.5	2	19.08	17.33	15.43	13.56	12.86	12.66	
1540							05 36 43.27	-07 17 47.7	1	19.31	16.87	14.83	13.31	12.66	12.41	
1541							05 36 43.77	-06 15 28.6	1	18.61	16.45	14.59	13.03	12.37	12.10	
		76-278		4-412	415		05 36 43.98	-05 58 31.8	1-2	16.26	14.60	13.19	11.95	11.27	11.08	
1542						*	05 36 44.02	-05 06 22.7	2	18.29	16.49	15.09	13.59	12.93	12.68	
1543							05 36 44.56	-06 02 09.1	3	18.63	16.94	15.10	13.41	12.82	12.56	
1544							05 36 44.76	-06 44 28.5	1	19.04	16.80	15.28	13.83	13.19	12.88	
1545							05 36 44.94	-06 16 04.6	1	20.32	17.63	15.74	13.98	13.38	13.12	
1546							05 36 45.09	-06 02 44.7	1	19.64	18.01	15.76	13.99	13.40	13.13	
		76-280		4-221	420		05 36 45.21	-06 28 09.6	2	17.55	15.34	13.78	12.15	11.50	11.23	
1547						*	05 36 46.06	-05 44 12.5	4-5	20.40	18.64	18.30	16.07	15.16	14.41	
1548							05 36 46.62	-06 39 50.0	3	20.69	18.44	15.86	14.25	13.66	13.40	
1549							05 36 46.68	-04 22 45.7	2	19.98	17.36	15.23	13.20	12.62	12.29	
				4-410	411		05 36 47.18	-05 22 50.1	1-2	17.22	16.23	14.32	12.77	12.15	11.87	
1550							05 36 47.54	-06 08 20.3	3	17.14	15.77	14.38	13.05	12.36	12.12	
		76-281		4-411	414		05 36 47.61	-05 36 31.3	3	16.64	14.97	13.48	11.88	10.98	10.69	
1551						*	05 36 48.16	-05 40 52.9	1	18.41	16.49	14.69	12.99	12.36	12.09	
1552						*	05 36 48.26	-05 42 45.1	1	18.57	16.44	14.38	12.44	11.75	11.46	
1553							05 36 48.36	-04 35 45.8	2	20.18	17.74	15.98	14.09	13.47	13.22	
1554						*	05 36 48.37	-05 14 16.6	2	18.47	16.17	14.66	13.01	12.39	12.11	
1555							05 36 49.28	-02 43 54.4	1	17.49	16.41	14.92	13.30	12.65	12.34	
		76-282					05 36 49.66	-05 04 09.4	2-3	16.85	14.96	13.81	12.16	11.26	10.82	
1556						*	05 36 49.80	-05 37 59.5	4	20.03	19.07	16.86	14.78	14.14	13.74	
				4-416	422		05 36 50.14	-06 41 29.2	1-2	17.71	15.14	13.95	12.01	10.99	10.49	
1557							05 36 50.27	-06 41 54.6	4-5	20.82	18.46	16.38	13.88	12.95	12.39	
1558							05 36 50.39	-04 51 15.2	4	19.33	18.85	16.89	14.58	13.95	13.57	
	V852	76-284		4-80	421		05 36 51.86	-05 08 35.8	3	17.11	14.36	13.49	12.16	11.33	10.86	
1559							05 36 52.33	-07 06 10.2	1-2	18.74	16.45	14.51	12.67	12.11	11.80	
1560							05 36 52.69	-06 43 08.4	1	19.88	16.48	15.14	12.74	11.33	10.52	
1561							05 36 53.26	-06 35 00.4	1	18.28	16.59	15.06	13.41	12.77	12.55	
1562						*	05 36 53.82	-05 48 01.3	3	19.74	17.72	15.57	13.75	13.09	12.83	
				4-418	424		05 36 54.29	-06 19 45.6	1	18.23	15.69	14.34	12.76	12.13	11.85	
1563							05 36 55.22	-06 20 25.8	3	17.52	15.79	14.40	13.00	12.30	12.08	
1564							05 36 56.14	-07 43 01.4	1	17.74	15.52	14.04	12.47	11.83	11.57	
1565							05 36 56.66	-05 54 52.5	3	20.03	18.03	15.90	14.16	13.48	13.35	
1566							05 36 57.35	-06 18 45.2	1	18.70	17.12	14.87	13.11	12.53	12.26	
1567							05 36 57.57	-05 04 25.9	2	20.24	17.78	15.90	13.78	13.21	12.86	
1568							05 36 58.98	-06 29 04.9	3	18.09	15.89	14.38	12.62	11.88	11.65	
1569							05 36 59.38	-05 40 55.8	2	20.48	18.26	15.81	13.84	13.22	12.93	
	PW	76-286		4-113	425		05 36 59.80	-05 23 40.9	3	15.69	13.93	12.85	11.45	10.75	10.41	
1570							05 36 59.97	-06 11 45.4	3	18.40	16.47	14.77	13.21	12.52	12.34	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1571	BE	76-287	168	4-226	427	Nk59	05 37 00.10	-06 33 27.3	2	14.61	14.18	11.88	10.11	8.97	8.12	
1572							05 37 00.33	-05 25 08.6	4	19.72	17.03	14.82	13.15	12.46	12.04	
1573							05 37 00.68	-05 25 01.1	1	17.52	15.69	13.56	12.20	11.53	11.28	
1574							05 37 00.93	-06 33 11.1	2	20.97	17.92	15.76	13.38	12.60	12.17	
1575							05 37 01.83	-05 36 28.3	1				13.14	12.47	12.14	
							05 37 02.22	-04 00 42.9	1-2	18.29	16.18	14.39	12.85	12.18	12.02	
	V381	76-288	486	4-138	426		05 37 02.39	-05 36 29.7	2	12.41	11.28	11.07	10.45	9.75	9.15	
1576							05 37 03.00	-02 50 49.0	2	17.26	15.91	14.43	12.99	12.30	12.04	
1577							05 37 03.12	-05 24 14.1	3	14.60	13.29	12.11	11.20	10.44	10.10	2,11
1578							05 37 04.72	-06 04 55.5	2	19.64	17.45	15.27	13.47	12.88	12.64	
1579							05 37 04.91	-05 37 12.7	2	17.04	15.63	13.92	12.08	11.43	11.18	
1580							05 37 05.75	-04 47 21.2	2	18.79	16.47	14.95	13.12	12.46	12.16	
1581							05 37 05.94	-05 40 55.5	3	20.69	16.88		14.00	13.32	12.96	
1582							05 37 06.24	-05 00 02.6	2	18.73	15.59	14.78	13.33	12.68	12.40	
		76-289		4-185	429		05 37 07.75	-05 52 54.7	3	15.63	13.56	12.80	11.60	10.92	10.52	
1583							05 37 08.86	-06 43 58.8	4	20.58	18.33	16.15	13.91	13.24	12.75	
1584							05 37 09.06	-06 01 07.2	4	20.57	17.73	16.15	14.02	13.44	12.95	
1585							05 37 10.13	-05 17 58.7	2	20.26	17.92	15.88	13.91	13.42	13.04	
1586							05 37 10.68	-06 47 12.0	1		17.44	15.79	14.01	13.42	13.13	
						WBHa 75	05 37 10.81	-06 45 40.9	1	16.52	14.24	13.20	11.97	11.25	11.04	
1587							05 37 10.85	-06 30 15.2	2-3	19.21	16.86	14.88	12.91	12.27	12.01	
1588							05 37 11.91	-06 29 17.0	3	19.39	16.59	14.99	13.03	12.18	11.89	
1589							05 37 13.90	-06 18 13.5	1	18.86	16.22	14.64	12.96	12.34	12.09	
				4-420	430		05 37 13.95	-07 03 23.1	1-4	17.49	15.13	14.37	12.62	11.93	11.62	
				4-421	431		05 37 14.02	-07 03 41.2	3	16.86	14.24	14.78	12.12	11.23	10.79	
1590							05 37 14.73	-06 35 15.8	2	17.91	17.17	15.09	13.47	12.89	12.57	
1591							05 37 14.81	-06 01 41.8	2	20.69	18.28	16.17	14.40	13.81	13.61	
	V587	76-291		4-247	435		05 37 15.51	-06 59 03.8	3	17.06	14.64	14.08	12.50	11.20	10.39	
1592							05 37 16.11	-06 10 11.6	1	20.23	17.94	16.02	14.06	13.50	13.19	
						WBHa 76	05 37 16.41	-07 11 46.3	4-5	19.31	17.58	16.31	14.65	13.98	13.63	
		76-290					05 37 16.87	-05 33 03.7	2	18.39	15.33	14.04	12.34	11.57	11.28	
1593							05 37 16.87	-06 47 50.7	3	20.80	19.07	16.53	14.43	13.76	13.43	
		76-293					05 37 17.30	-06 36 18.2	3	17.96	16.14	15.37	13.54	12.62	11.92	
1594							05 37 18.25	-05 49 20.7	3	18.55	16.71	14.66	12.84	12.18	11.85	
		76-294		4-422	433		05 37 18.41	-05 43 52.4	3	16.95	13.93	13.29	11.98	11.33	11.13	
1595							05 37 18.89	-06 47 04.0	2	20.24	17.91	15.85	13.92	13.33	13.08	
1596							05 37 19.90	-07 18 57.8	4	18.57	17.33	14.94	12.69	12.00	11.57	
1597							05 37 22.17	-06 54 45.4	1	19.84	17.25	14.83	13.10	12.56	12.24	
		76-296		4-234	436		05 37 22.86	-06 44 46.6	3	17.29	15.13	14.33	12.58	11.68	11.28	
		76-295					05 37 22.94	-06 03 21.1	1-2	14.77	13.34	11.95	12.97	12.29	12.06	
1598							05 37 23.46	-05 43 23.2	1	17.62	16.00	14.93	13.09	12.45	12.24	
1599							05 37 24.40	-05 46 40.0	2	19.86	17.80	15.99	13.95	13.36	13.10	
1600							05 37 24.91	-06 02 42.3	2-3	19.48	17.84	15.66	13.89	13.29	12.95	
1601							05 37 25.57	-04 25 27.8	1	17.31	15.57	13.99	12.52	11.86	11.64	
1602							05 37 26.02	-05 34 01.3	1	16.11	14.03	13.37	11.57	10.81	10.42	
1603							05 37 27.01	-05 31 04.0	2	17.94	16.05	14.34	12.79	12.12	11.90	
1604							05 37 27.79	-05 01 57.4	4-5	20.93	19.13	17.33	14.90	14.38	13.93	
1605							05 37 28.71	-03 33 48.7	3	20.82	18.67	16.71	14.57	13.94	13.61	
1606							05 37 30.18	-05 49 38.1	2	20.02	17.91	15.78	13.92	13.35	13.01	
1607							05 37 30.51	-06 05 27.1	2-4	19.56	17.68	15.09	13.24	12.60	12.23	
1608							05 37 30.60	-03 32 26.3	1-2	18.89	16.41	14.91	13.40	12.70	12.50	
		76-299		4-424	437		05 37 30.66	-06 56 06.4	2	17.99	15.69	13.70	12.33	11.63	11.38	
1609							05 37 31.50	-04 07 18.7	5	17.71	16.24	14.94	13.76	13.01	12.73	2,8
						WBHa 81	05 37 32.30	-07 04 58.9	1	17.58	15.30	14.04	12.52	11.85	11.60	
1610							05 37 32.40	-03 36 17.4	2	19.46	17.11	15.42	13.58	12.92	12.56	
		76-301		4-426	440		05 37 32.45	-06 39 05.2	3	18.05	16.03	14.54	12.97	12.28	12.07	
1611							05 37 32.72	-05 35 08.0	2	20.45	17.98	16.56	14.57	13.93	13.81	
	V368	76-300		4-88	439		05 37 33.47	-05 12 37.4	3	15.35	13.54	12.67	11.48	10.76	10.44	
1612							05 37 33.70	-03 45 38.6	2-3	18.86	17.05	15.12	13.20	12.56	12.26	
1613							05 37 34.07	-06 44 02.3	1	18.99	16.86	15.13	13.47	12.80	12.60	
1614							05 37 35.24	-06 28 21.7	2	18.13	16.18	14.59	13.28	12.59	12.36	
	V874				442		05 37 36.67	-07 03 04.6	3	18.52	15.67	14.86	13.30	12.54	12.07	
1615							05 37 37.01	-07 24 16.8	2	19.78	17.81	15.58	13.27	11.90	11.08	
	V588				441	Ton 11?	05 37 37.42	-05 52 21.8	4	16.91	15.30	14.50	13.02	12.36	12.11	
1616							05 37 37.96	-05 16 34.3	1	17.39	15.30	13.77	12.55	11.89	11.65	
1617							05 37 38.33	-04 13 12.6	1	17.10	14.77	12.78	11.47	10.87	10.58	
1618							05 37 40.06	-05 48 23.4	3	19.72	18.23	16.03	14.20	13.59	13.25	
1619							05 37 41.25	-04 14 37.4	1-2	18.98	16.84	14.97	13.48	12.81	12.53	
		76-303		4-429	445		05 37 41.80	-06 39 34.4	3	18.25	16.52	14.93	13.11	12.46	12.15	
1620							05 37 44.20	-05 29 31.2	2	17.35	15.40	14.16	13.40	12.50	12.03	
		76-305		4-242	448		05 37 44.49	-06 50 36.6	4	17.44	14.64	13.72	12.28	11.47	11.21	
1621							05 37 47.22	-04 54 38.3	3	20.67	18.14	16.12	14.16	13.45	13.13	
1622							05 37 47.48	-05 45 13.5	4-5	21.23	19.13	17.72	15.30	14.63	14.44	
1623							05 37 47.81	-07 11 37.9	2	19.42	17.79	15.44	13.40	12.69	12.31	
1624							05 37 48.84	-06 02 31.8	2	19.28	16.88	14.84	13.08	12.45	12.15	
1625							05 37 48.96	-07 57 19.8	2-3	16.32	14.10	13.29	11.93	11.19	11.03	
1626							05 37 49.03	-04 58 53.2	1	20.44	18.02	16.30	14.53	13.94	13.64	
1627							05 37 49.21	-04 26 12.1	3-4	19.40	17.06	15.28	13.46	12.71	12.19	
1628							05 37 49.35	-06 51 37.3	2	19.14	16.63	14.44	12.86	12.05	11.77	
				4-432	449		05 37 49.49	-07 57 53.2	2	18.41	15.88	14.37	12.81	12.05	11.84	
		76-309		4-433	450		05 37 49.54	-06 56 27.4	2	17.52	15.30	13.40	12.00	11.10	10.66	
1629							05 37 49.60	-03 02 48.0	2	19.94	17.79	15.49	13.74	13.17	12.82	
		76-307		4-430	446		05 37 49.91	-04 25 57.2	4	17.61	15.50	14.09	12.81	12.07	11.70	
		76-308		4-431	447		05 37 50.24	-04 26 16.8	2	16.86	14.99	13.55	12.24	11.40	10.95	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1630							05 37 50.24	-05 30 19.6	3-4	19.41	17.37	15.58	13.93	13.31	13.06	
1631							05 37 50.43	-06 21 08.1	1	17.99	16.08	14.18	12.35	11.52	11.27	
1632							05 37 50.54	-05 02 52.9	1	19.70	17.24	15.89	14.36	13.76	13.51	
1633							05 37 51.41	-06 57 09.7	4-5	20.30	17.12	15.39	13.46	12.75	12.35	
1634							05 37 51.58	-06 41 29.1	1	18.29	16.54	14.82	13.18	12.54	12.33	
	V591	76-310		4-246	451		05 37 51.72	-06 56 51.9	3	17.61	14.78	13.15	11.45	10.50	10.05	
1635							05 37 52.34	-06 11 38.4	2-3	17.65	15.37	13.77	12.55	11.87	11.64	
1636							05 37 53.08	-06 35 55.4	3	19.49	17.14	15.21	13.43	12.80	12.47	
1637							05 37 53.28	-07 02 27.2	1	19.79	17.72	16.14	14.39	13.83	13.45	
1638							05 37 53.98	-02 49 54.5	2	17.93	17.08	15.15	14.52	13.25	12.45	
1639							05 37 53.41	-05 17 04.6	4	18.88	16.91	14.97	13.12	12.52	12.13	2,8
	V592	76-311		4-435	453		05 37 54.48	-06 57 31.1	1	15.48	13.01	12.16	11.37	10.51	9.99	
1640							05 37 54.53	-02 58 26.5	3	19.81	17.82	15.63	13.31	12.71	12.41	
1641							05 37 55.03	-06 44 59.1	1	17.26	15.33	14.04	12.55	11.91	11.69	
1642							05 37 55.20	-06 58 43.4	1-2	19.56	17.16	14.53	12.73	11.94	11.52	
1643							05 37 55.99	-06 52 33.7	1	19.74	17.70	15.32	13.36	12.74	12.48	
1644							05 37 57.77	-05 04 43.5	1	19.26	16.88	15.44	13.89	13.12	12.90	
				4-439	457		05 37 58.80	-06 43 33.9	4				13.22	12.62	12.35	60
1645							05 37 58.90	-06 43 30.9	4	17.79	15.72	13.56	12.88	12.28	11.96	61
		76-313		4-440	458		05 37 59.05	-06 58 46.3	2	18.56	16.13	14.00	12.28	11.61	11.35	
		76-312					05 37 59.90	-04 13 40.2	2	16.59	14.41	12.99	11.83	10.95	10.68	
	V593	76-315		4-251	459		05 38 00.83	-07 15 54.2	3	16.53	14.40	13.39	11.83	11.03	10.69	
1646							05 38 01.07	-02 45 38.0	4	17.46	16.02	14.10	12.41	11.62	11.12	
1647							05 38 01.81	-06 26 50.5	2	18.83	16.92	15.79	14.18	13.50	13.32	
1648							05 38 02.49	-06 44 44.9	3	20.15	17.70	15.64	13.44	12.65	12.24	
1649							05 38 02.49	-06 40 56.9	2	20.17	17.50	16.17	14.17	13.63	13.28	
1650							05 38 03.47	-05 02 46.7	1	19.31	16.80	15.49	13.80	13.15	12.92	
	V1143	76-314	488				05 38 03.90	-04 16 42.9	3	14.75	15.84	13.96	12.63	11.96	11.58	62
1651							05 38 04.02	-07 17 50.5	1	19.54	17.10	15.60	13.74	12.97	12.60	
		76-317		4-441	462		05 38 04.17	-07 22 04.4	4	18.01	16.64	15.00	13.18	12.30	11.79	
	V878	76-319		4-250	463		05 38 04.96	-07 16 10.8	3	17.16	14.72	13.74	12.40	11.23	10.48	
1652							05 38 05.28	-06 29 36.4	3	20.71	18.79	16.36	14.23	13.51	13.13	
				4-220	461		05 38 06.08	-06 29 51.2	1	17.68	14.94	13.65	12.39	11.32	10.69	
		76-318		4-65	460		05 38 07.27	-05 01 18.3	3-4	16.71	14.33	13.37	11.97	11.24	10.92	
1653							05 38 09.03	-03 38 11.4	3	20.38	18.31	16.35	14.16	13.53	13.27	
1654							05 38 09.12	-04 52 10.9	1	19.45	16.98	15.72	13.94	13.17	12.97	
		76-323		4-248	466		05 38 09.16	-07 05 25.8	3	16.88	14.86	13.52	11.48	10.52	10.10	
1655							05 38 09.23	-05 41 00.0	2	19.49	17.29	15.64	13.89	13.24	13.02	
1656							05 38 09.94	-02 51 37.7	3	16.52	15.09	13.87	12.34	11.57	11.24	
1657							05 38 09.99	-05 02 58.2	1	19.41	17.25	15.54	13.79	13.06	12.77	
				4-442	464		05 38 10.22	-06 25 26.6	1	16.23	14.60	13.57	12.13	11.44	11.18	
		76-324		4-211	465		05 38 10.63	-06 22 08.6	2-3	16.59	15.10	13.41	11.90	11.11	10.66	
		76-322					05 38 13.16	-02 45 51.0	3-4	15.37	14.26	13.50	12.07	11.26	10.77	
1658							05 38 15.89	-03 05 40.7	1	15.21	13.27	13.37	13.16	12.77	12.69	
1659							05 38 15.93	-05 10 35.0	1	20.37	17.72	15.89	13.85	13.18	12.98	
1660							05 38 17.43	-07 09 39.6	1	20.46	17.03	14.55	12.44	11.26	10.83	
		76-326					05 38 18.86	-02 51 38.8	1	17.03	15.44	14.41	12.81	12.04	11.73	
1661							05 38 19.10	-05 03 56.8	1	19.02	16.95	15.22	13.55	12.83	12.63	
1662							05 38 19.32	-07 24 08.3	2	17.67	15.78	14.51	13.32	12.66	12.49	
1663							05 38 20.71	-06 10 00.8	2	17.77	15.62	14.10	12.67	11.90	11.50	
1664							05 38 21.22	-07 01 20.3	4-5	21.23	18.84	16.75	13.88	12.92	12.41	
		76-327					05 38 22.54	-03 11 56.6	3-4	16.65	14.95	13.90	12.33	11.42	10.86	
1665							05 38 23.47	-07 33 08.4	1	17.28	14.95	13.20	11.76	11.04	10.78	63
1666							05 38 23.49	-07 04 44.7	3	18.39	16.47	14.32	12.72	12.00	11.70	
		76-332		4-444	470		05 38 23.88	-07 07 38.9	2	17.85	14.42	14.22	12.39	11.43	10.80	
	V1002	76-333		4-240	473		05 38 25.54	-06 47 57.6	4	17.25	16.38	15.89	14.48	13.06	12.07	
		76-331		4-107	468		05 38 25.79	-05 22 11.0	3-4	17.48	14.95	13.96	12.65	11.79	11.29	
				4-446	472		05 38 26.04	-07 37 59.3	3	17.51	14.92	13.65	12.00	11.20	10.89	
1667							05 38 26.80	-06 50 55.3	2	19.48	16.86	14.90	13.32	12.40	12.01	
		76-328					05 38 27.26	-02 45 09.7	3	14.63	13.34		11.95	10.79	9.94	
	V594	76-336		4-245	475		05 38 27.68	-06 54 53.7	3	14.83	13.05	12.27	11.31	10.53	10.11	
1668							05 38 28.29	-07 23 46.1	1	19.58	17.02	15.01	13.30	12.71	12.39	
1669							05 38 28.44	-03 00 26.0	2	17.70	15.71	14.34	13.17	12.52	12.28	2,11
1670							05 38 30.06	-06 12 54.2	2-3	19.02	16.59	14.47	12.85	12.22	11.93	
	V589	76-338		4-449	478		05 38 30.10	-06 39 41.7	1	17.38	15.65	14.22	12.78	12.12	11.89	
		76-335			469		05 38 30.24	-04 02 46.2	3-4	17.06	15.48	13.94	12.32	11.47	10.93	
		76-339		4-451	480		05 38 31.98	-06 52 39.1	2-3	18.93	16.22	14.38	12.46	11.56	11.18	
1671							05 38 32.30	-03 02 23.6	2	19.18	17.12	15.27	13.66	12.98	12.70	
1672							05 38 32.31	-07 16 58.3	1	18.77	16.89	14.54	12.91	12.28	11.95	
1673							05 38 33.46	-07 25 55.0	2	18.65	16.97	14.95	13.31	12.67	12.42	
	TX		172	5-12			05 38 33.68	-02 44 14.2	1	13.25	12.48	11.69	10.13	9.28	8.67	
1674							05 38 34.46	-02 53 51.5	4-5	20.42	17.86	17.63	15.53	14.04	12.65	
		48-13	174	7-1	481		05 38 35.19	-07 50 19.8	3	14.23	12.45	11.77	10.69	9.97	9.71	
1675							05 38 36.09	-05 40 48.4	1	16.71	14.69	13.37	12.06	11.35	11.19	
				4-452	482		05 38 36.60	-07 46 34.5	1-2	16.89	14.58	13.49	11.85	11.05	10.72	
1676							05 38 36.66	-07 11 00.2	2	17.30	14.33	12.60	11.37	10.73		
1677							05 38 37.45	-02 50 23.6	2	18.69	16.46	14.66	12.81	12.18	11.92	
1678							05 38 38.65	-05 01 08.4	5		19.05	17.82	15.41	14.83	14.27	
1679							05 38 39.03	-02 45 32.2	2	17.35	15.60	14.63	12.91	12.19	11.89	
				4-453	483		05 38 40.11	-06 59 14.8	4	19.63	16.75	14.99	12.84	11.55	10.65	
			490	4-249/c			05 38 42.51	-07 12 57.6	1	13.87	16.20	13.53	12.44	11.56	11.23	
		76-340	491	4-249	484	Nk88	05 38 42.79	-07 12 43.8	4	11.55	11.09	11.06	10.82	9.28	8.12	64
1680							05 38 43.22	-06 58 08.9	2		18.61	15.61	12.05	9.98	8.62	
1681							05 38 44.95	-06 58 14.7	3		19.85	16.92	13.32	11.61	10.65	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1682							05 38 45.35	-03 04 42.8	2	19.82	17.03	15.30	13.81	13.25	12.93	
		48-15		4-455	487		05 38 47.83	-07 44 32.7	3-4	18.70	16.59	14.25	12.28	11.38	10.71	
				4-68	486		05 38 49.50	-04 51 08.3	4	17.64	15.20	14.35	12.99	12.23	11.96	
		76-341		4-253	488		05 38 50.01	-07 20 18.4	3	18.05	14.91	13.56	11.51	10.29	9.47	
1683							05 38 51.96	-03 28 40.7	2	18.66	16.78	15.02	13.52	12.85	12.62	
1684							05 38 52.01	-02 46 43.7	1-2	14.79	12.53	12.80	11.52	10.77	10.42	
		76-342		4-254	489	Nk90	05 38 52.37	-07 21 09.6	3	16.30	13.73	12.30	10.24	8.87	8.03	
1685							05 38 53.42	-06 07 31.9	3	19.54	17.26	15.62	13.75	13.17	12.89	
1686							05 38 54.52	-07 27 52.1	4	20.49	16.92	14.73	12.19	10.73	9.79	
1687							05 38 56.12	-04 10 04.8	2		18.09	16.08	14.19	13.57	13.30	
1688							05 38 56.78	-05 45 48.0	2	19.80	17.32	15.61	13.96	13.26	13.05	
		76-345		4-243	491		05 38 57.04	-06 52 59.3	4	18.17	16.28	15.15	13.49	12.75	12.33	
1689							05 38 59.41	-04 30 38.0	3	18.64	16.78	14.90	13.33	12.68	12.48	
1690							05 39 01.13	-05 59 05.8	3	20.48	18.03	16.02	14.63	13.98	13.70	
1691							05 39 01.23	-07 01 09.5	4	21.09	17.99	16.00	13.37	12.06	11.37	
1692							05 39 02.12	-07 42 35.7	1	18.69	16.63	14.95	13.65	13.05	12.78	
1693							05 39 03.57	-02 46 27.0	3	16.92	15.68	14.43	12.84	12.12	11.86	
1694							05 39 03.88	-03 49 58.1	4	20.06	17.57	16.25	14.35	13.67	13.33	
1695							05 39 05.37	-07 11 05.3	4		17.83	16.30	12.78	11.37	10.54	
1696							05 39 06.00	-06 55 47.5	3	18.94	16.76	15.30	13.56	12.92	12.68	
1697							05 39 06.15	-04 42 49.7	1-2	18.47	16.38	14.75	13.10	12.51	12.27	
1698							05 39 11.52	-06 02 00.5	1	18.88	16.83	15.03	13.54	12.86	12.66	
1699							05 39 14.49	-04 47 12.6	3	19.98	16.20	14.43	13.45	12.52	12.06	
1700							05 39 14.86	-07 49 44.2	4	18.23	16.18	14.49	12.81	12.13	11.86	
		76-348		4-252	496		05 39 15.24	-06 44 02.8	4	16.85	14.50	13.21	11.52	10.57	10.01	
1701							05 39 18.63	-07 27 50.9	1	16.15	13.64	12.12	11.52	10.57	10.25	
1702							05 39 19.27	-07 06 44.0	1-2	18.21	16.41	14.54	12.87	12.20	12.01	
1703							05 39 21.48	-07 23 30.0	3	20.21	17.47	14.77	12.30	11.16	10.81	
		76-350	176	4-255	497	Nk93	05 39 22.33	-07 26 44.5	3	11.32	9.96	9.74	10.46	9.17	8.16	65
1704							05 39 25.62	-06 19 03.3	3	19.38	17.25	15.39	13.42	12.82	12.51	
1705							05 39 25.96	-03 32 53.0	2	19.53	17.58	15.89	14.19	13.64	13.24	
1706							05 39 25.99	-08 04 06.8	3	17.79	15.88	15.19	13.07	12.18	11.60	
1707							05 39 31.32	-02 48 52.9	2	18.50	16.87	15.31	13.62	12.93	12.66	
				5-86	498		05 39 34.20	-04 13 00.0	3	17.47	15.23	13.99	12.78	12.06	11.86	66
		76-353					05 39 34.49	-03 17 48.0	4	16.21	15.02	13.62	12.78	11.98	11.28	2,5
		76-355		4-462	499		05 39 35.24	-04 36 14.5	3	17.19	15.94	14.64	12.89	12.15	11.65	
		48-19		4-463	500		05 39 36.32	-07 43 51.2	4	16.62	14.27	13.64	12.07	11.15	10.66	
1708							05 39 36.43	-07 00 58.5	2-3	18.70	16.42	14.78	13.14	12.48	12.18	
1709							05 39 38.67	-07 45 05.3	2	18.96	16.97	15.12	13.20	12.52	12.23	
1710							05 39 39.03	-07 18 16.9	2	20.43	17.63	16.09	14.49	13.69	13.46	
		76-358					05 39 42.79	-02 58 53.9	3	14.75	12.59	12.07	11.02	10.20	9.84	
1711							05 39 43.85	-07 53 53.8	1	18.77	16.58	14.61	12.90	12.21	11.99	
1712							05 39 46.04	-07 53 00.8	2	19.80	17.79	15.77	13.80	13.10	12.83	
1713							05 39 46.25	-05 56 39.0	2	19.72	17.37	15.17	13.21	12.61	12.30	
1714							05 39 46.91	-07 43 18.2	3	18.84	16.87	14.75	12.81	12.11	11.81	
1715							05 39 51.77	-03 35 20.4	2	19.24	17.16	14.96	13.36	12.70	12.41	
1716							05 39 53.81	-07 09 53.9	1	18.39	16.48	14.66	13.20	12.60	12.36	
1717							05 39 54.42	-07 09 26.1	3	20.06	17.34	14.86	12.62	11.87	11.50	
		76-361		5-34			05 39 54.66	-02 46 34.1	2	15.34	13.81	12.87	11.05	10.25	9.83	
1718							05 39 55.21	-03 33 03.7	2	19.76	17.35	15.35	13.62	13.00	12.74	
1719							05 40 00.18	-04 52 38.3	1-2	18.03	15.96	14.08	12.60	11.98	11.79	
1720							05 40 01.19	-06 12 59.3	1	19.20	17.03	15.12	13.62	12.95	12.71	
1721							05 40 03.27	-04 43 50.1	1	17.87	15.60	14.19	12.57	11.91	11.66	
1722							05 40 04.16	-06 29 19.5	1-2	20.20	17.96	17.19	15.38	14.62	14.31	
1723							05 40 04.69	-06 36 24.9	2	20.17	17.53	15.69	13.98	13.33	13.04	
		76-365		4-467	504		05 40 05.05	-06 29 24.6	3	16.27	14.85	13.95	12.10	11.23	10.76	
		76-366		4-469	506		05 40 05.48	-06 21 39.4	2	15.91	14.10	13.19	11.96	11.27	11.03	
1724							05 40 06.15	-06 28 20.2	4-5	20.70	19.18	17.29	14.52	13.92	13.38	
		48-21		4-471	508		05 40 06.27	-07 47 44.6	4	17.98	15.70	14.53	12.98	12.23	11.98	
	V995	48-24		4-473	510		05 40 09.82	-07 09 54.1	2-3	17.47	15.89	14.30	12.76	12.05	11.81	
1725							05 40 11.17	-07 09 51.9	1	15.98	14.58	13.11	12.19	11.30	10.64	2,67
		76-368		4-474	511		05 40 11.31	-07 09 53.9	4	15.98	14.58	13.11	12.19	11.30	10.64	2,68
1726							05 40 11.86	-04 49 00.2	3	21.13	18.63	16.47	14.84	14.05	13.54	
1727							05 40 13.92	-07 19 25.6	4	20.01	16.97	16.77	14.00	12.50	11.42	
1728							05 40 14.21	-02 56 40.9	4	19.95	17.34	17.74	16.43	15.60	15.12	
		76-369		4-475	512		05 40 16.84	-07 19 07.1	4	18.63	16.63	14.90	13.14	12.33	11.74	
1729							05 40 17.70	-07 23 25.5	1-2	19.37	17.13		13.71	13.13	12.85	
1730							05 40 18.31	-06 09 06.7	1	19.53	17.04	15.31	13.77	13.13	12.93	
1731							05 40 18.53	-07 42 22.3	3	19.48	17.34	15.20	13.41	12.75	12.45	
		76-370		4-476	513		05 40 20.40	-07 25 54.1	3	18.02	15.34	14.20	12.67	11.85	11.59	
1732							05 40 20.73	-07 55 00.0	4-5		18.67	16.95	13.15	11.47	10.42	
1733							05 40 24.97	-07 55 35.3	4	18.61	17.08	15.16	12.45	11.37	10.66	
1734							05 40 25.16	-05 03 34.7	4-5	19.84	18.52	16.27	13.87	13.26	12.88	
1735							05 40 25.25	-06 15 45.1	1	16.47	14.32	13.21	11.90	11.13	10.99	
							05 40 25.65	-07 05 37.2	1-2	17.61	15.65	14.20	12.81	11.90	11.48	
1736							05 40 25.80	-02 48 55.4	3	18.02	16.66	17.05	15.15	14.10	13.07	
1737							05 40 27.85	-06 36 55.5	4	20.52	17.98	16.52	13.86	13.12	12.55	
1738							05 40 28.10	-07 07 47.1	1	17.98	16.29	14.67	13.06	12.34	12.14	
1739							05 40 28.29	-06 14 16.6	2	19.57	17.05	15.52	13.97	13.32	13.09	
1740							05 40 29.17	-06 50 29.6	1	18.25	16.58	14.54	13.03	12.38	12.12	
1741							05 40 29.96	-03 10 12.4	2	18.70	16.83	14.60	13.26	12.60	12.36	
		48-32		4-479	516		05 40 30.20	-07 06 44.8	4	18.56	16.88	15.32	13.25	12.49	12.02	
1742							05 40 31.90	-03 40 52.6	4-5	20.24	18.38	16.55	14.44	13.73	13.24	
1743							05 40 34.40	-02 44 09.6	4	18.83	18.15	15.52	13.75	13.18	12.78	

Table 3. continued.

ESOHa	GCVS	KisoHa	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	H α	m_J	m_F	m_N	J	H	K_s	Notes
1744							05 40 39.20	-02 52 29.8	2	17.52	16.62	14.66	12.55	11.91	11.64	
1745							05 40 39.34	-06 29 23.2	4	20.44	18.18	16.38	14.24	12.86	12.02	
		76-374		4-480	517		05 40 40.05	-06 31 50.0	3	16.36	14.55	14.20	11.76	10.88	10.34	
1746							05 40 44.67	-07 29 54.4	4	21.03	16.91	15.13	12.45	11.24	10.54	
		76-376		4-482	519		05 40 45.12	-07 22 25.0	3	16.55	14.49	14.14	11.74	10.50	9.50	
1747							05 40 45.21	-06 51 41.6	3	16.70	15.20	13.74	15.21	14.80		
		76-378					05 40 52.60	-02 59 46.9	4	18.33	16.24	14.80	12.80	12.16	11.78	
1748							05 40 55.20	-02 47 49.8	2-3	16.04	16.55	16.61	15.24	14.45	13.88	
1749							05 40 59.92	-06 30 47.7	1	17.92	15.79	14.40	12.94	12.23	12.03	
1750							05 41 02.30	-04 24 11.0	1	19.58	17.04	15.63	13.99	13.28	13.10	
1751							05 41 03.52	-05 39 42.8	2	20.55	17.77	16.01	14.25	13.52	13.18	
1752							05 41 04.09	-07 43 38.6	2	21.13	18.78	16.07	13.31	12.14	11.59	
1753							05 41 04.63	-07 45 40.3	1	17.85	14.85	13.36	11.63	10.67	10.30	
1754							05 41 05.49	-07 47 07.5	4	20.82	17.48	15.48	12.65	11.23	10.26	
1755							05 41 06.24	-05 36 02.3	4	18.79	16.85	15.30	13.48	12.79	12.43	
				4-484	521		05 41 07.00	-07 47 15.9	4	18.92	16.83	15.28	13.55	13.01	12.64	
1756							05 41 07.08	-07 46 22.5	2-3	20.54	17.74	15.69	13.46	12.54	12.08	
1757							05 41 12.65	-07 23 15.3	2	17.88	15.86	14.37	13.08	12.27	12.04	
1758							05 41 16.33	-07 35 36.2	1-2	18.03	15.70	13.92	12.35	11.81	11.48	
1759							05 41 16.73	-07 51 17.9	4-5	19.55	17.22	14.28	13.37	12.73	12.03	
1760							05 41 16.86	-07 31 25.7	1	18.87	16.42	14.77	12.99	12.09	11.81	
1761							05 41 17.58	-07 21 58.4	1-2	17.98	16.28	14.22	12.86	12.23	12.03	
		76-381		4-485	522		05 41 18.52	-07 26 21.2	3	16.76	14.83	14.01	12.64	11.70	11.15	
1762							05 41 23.37	-04 17 46.3	2	20.32	17.79	16.10	14.56	13.94	13.62	
1763							05 41 25.86	-07 49 50.7	1	20.46	17.56	15.63	12.62	11.20	10.55	
1764							05 41 27.19	-05 05 58.7	4-5	20.73	17.90	16.52	14.44	13.91	13.50	
1765							05 41 28.04	-07 49 22.4	3	19.81	18.09	15.75	14.50	13.58		
1766							05 41 32.13	-02 44 42.1	3	20.52	19.41	14.34	13.73	13.44		
		48-47		4-488	525		05 41 33.22	-07 55 02.2	3-4	16.27	14.45	13.75	12.21	11.17	10.53	
1767							05 41 33.42	-07 11 03.1	2	19.67	17.68	15.71	13.89	13.21	12.88	
1768							05 41 34.16	-06 37 02.0	2	20.15	17.72	15.85	14.07	13.45	13.22	
1769							05 41 34.87	-02 45 22.7	1	18.33	16.42	14.94	13.23	12.50	12.23	
		76-383		4-487	524		05 41 36.50	-06 20 45.3	3	15.63	13.66	12.65	11.61	10.90	10.62	
1770							05 41 43.74	-07 58 22.3	4-5	20.93	17.40	14.71	12.34	11.44	10.86	
1771							05 41 45.02	-04 16 03.3	3	18.60	16.76	14.93	13.45	12.75	12.40	
1772							05 41 45.60	-07 55 55.1	4	20.45	18.54	15.95	14.01	13.07	12.40	
		48-49	182	7-2	527	San 6	05 41 49.74	-08 00 32.3	2-3	12.70	11.37	10.82	9.41	8.54	7.81	
1773							05 41 51.20	-07 59 34.7	1	19.02	17.12	15.15	13.56	12.75	12.48	
1774							05 41 51.34	-07 51 48.4	1	18.52	16.24	14.37	12.66	11.94	11.63	
1775							05 41 54.03	-07 35 26.3	1	19.06	16.83	15.07	13.44	12.72	12.39	
1776							05 41 54.05	-07 49 53.5	2	18.12	15.74	13.90	12.23	11.45	11.08	
1777							05 41 54.66	-07 59 12.4	1	20.52	18.88	15.28	12.36	11.06	10.35	
1778							05 41 55.66	-06 57 46.0	4	20.75	18.71	17.09	14.57	13.54	12.78	
1779							05 41 56.19	-03 11 39.6	1-2	20.42	18.11	15.86	13.82	13.09	12.77	
1780							05 41 57.27	-04 50 07.2	2	19.58	17.29	15.12	13.38	12.78	12.52	
1781							05 42 01.52	-07 56 15.4	2	19.47	17.08	15.03	13.19	12.41	12.11	
1782							05 42 02.59	-07 15 59.8	3	18.27	16.86	14.38	13.54	12.48	11.89	
1783							05 42 05.59	-08 01 05.6	1	19.74	16.69	15.08	13.27	12.41	12.04	
1784							05 42 09.20	-03 04 44.1	2	19.88	16.57	15.05	12.57	11.45	10.92	
1785							05 42 10.31	-04 43 35.1	1	19.07	17.32	15.58	13.96	13.36	13.13	
1786							05 42 13.23	-07 09 55.2	1-4	19.06	16.98	15.45	13.84	13.17	12.93	
1787							05 42 14.30	-07 58 35.2	2	15.74	14.30	13.39	11.73	10.62	9.89	
1788							05 42 14.60	-07 58 57.9	3	19.32	16.63	15.03	12.76	11.85	11.40	
1789							05 42 15.08	-04 11 18.3	1	18.97	17.18	15.12	13.72	13.15	12.83	
1790							05 42 15.27	-07 39 06.6	2	18.33	15.83	14.35	13.06	12.36	12.09	
1791							05 42 19.22	-03 20 33.7	1	18.55	16.75	14.83	13.18	12.54	12.26	
1792							05 42 19.30	-07 53 40.9	2	20.04	17.92	15.66	13.84	13.16	12.81	
1793							05 42 20.61	-05 45 01.3	2	18.13	16.34	14.50	13.15	12.56	12.26	
1794							05 42 21.30	-04 20 20.1	1-2	20.00	17.89	16.04	14.55	13.97	13.68	
1795							05 42 22.42	-05 28 09.2	3-4	19.11	18.34	16.91			15.89	
1796							05 42 23.35	-04 55 01.8	2	19.45	17.15	15.13	13.41	12.79	12.48	
1797							05 42 26.03	-03 08 56.7	2-3	18.45	16.16	16.08	14.37	13.09	11.86	
1798							05 42 26.46	-07 47 53.3	2	18.65	16.70	14.88	13.19	12.53	12.27	
		48-52		4-491	529		05 42 26.50	-07 58 50.9	4	17.91	15.62	13.92	11.96	10.73	9.96	
1799							05 42 34.70	-07 58 40.6	1-2	19.66	17.62	15.55	13.52	12.78	12.40	
1800							05 42 43.02	-04 49 08.1	1	18.06	15.92	14.33	13.30	12.61	12.39	
1801							05 42 45.09	-04 37 16.1	2	19.03	16.96	14.53	13.01	12.43	12.15	
1802							05 42 49.01	-07 44 30.8	1	17.35	15.25	14.16	12.90	12.13	11.91	
1803							05 42 53.74	-07 39 18.8	3	19.44	17.15	15.08	13.42	12.80	12.52	
1804							05 42 54.99	-03 16 47.2	1	18.88	16.43	14.84	13.44	12.80	12.53	
1805							05 42 55.87	-03 16 41.8	1	20.02	17.72	15.61	13.96	13.31	13.07	
		48-63		4-493	532		05 42 58.35	-08 01 01.9	4	17.11	15.58	14.93	13.33	12.18	11.27	
1806							05 43 07.32	-05 07 15.0	4	18.63	17.15	14.95	13.19	12.56	12.28	
1807							05 43 23.22	-07 14 31.2	2	18.55	16.37	14.42	13.02	12.41	12.16	
1808							05 43 26.10	-05 40 50.0	2	20.52	18.50	16.30	14.32	13.52	13.28	
1809							05 43 29.13	-06 36 31.7	3	20.52	18.19	15.78	14.00	13.36	13.08	
1810							05 43 40.60	-07 18 20.3	2	18.28	16.22	14.55	13.15	12.43	12.20	
1811							05 43 41.50	-08 00 06.7	3	20.22	18.14	15.73	13.83	13.18	12.92	
1812							05 43 48.15	-05 33 21.7	3	15.75	14.16	13.19	13.20	12.61	12.36	13,39
1813							05 43 48.33	-07 51 12.5	2	18.28	16.31	14.35	12.86	12.26	12.00	
1814							05 43 55.37	-07 20 59.8	3	19.32	16.79	14.63	12.89	12.21	11.94	
1815							05 43 55.56	-07 44 48.0	3	19.27	17.18	15.95	14.36	13.23	12.44	
1816							05 43 55.89	-07 44 40.9	1	20.00	17.84	15.72	13.89	13.22	13.02	
1817							05 43 56.38	-05 35 11.2	2	19.33	17.05	14.88	13.33	12.72	12.46	

Table 3. continued.

ESO $H\alpha$	GCVS	Kiso $H\alpha$	HBC	Haro	PaCh	Other	$\alpha(2000)$	$\delta(2000)$	$H\alpha$	m_J	m_F	m_N	J	H	K_s	Notes
1818							05 44 00.57	−04 04 39.4	2	21.04	18.15	16.60	15.00	14.13	13.90	
1819							05 44 01.67	−04 05 18.9	2	20.06	17.73	16.26	14.50	13.92	13.72	
1820							05 44 11.56	−05 25 57.7	1	18.37	16.36	14.95	13.60	12.96	12.70	
1821							05 44 20.44	−05 20 12.0	2	20.10	18.11	16.06	14.61	14.00	13.71	
1822							05 44 26.65	−06 42 55.5	2-3	18.81	16.62	14.75	13.13	12.49	12.32	
1823							05 44 46.94	−02 55 28.5	2	17.68	15.61	14.51	13.94	13.35	13.00	
1824							05 44 56.73	−03 32 51.1	3	18.28	15.45	13.49	11.69	10.67	10.22	
1825							05 45 32.53	−07 34 52.9	3	19.21	16.66	14.22	12.50	11.90	11.60	
1826							05 45 34.08	−07 15 32.4	2	19.08	17.01	15.05	13.53	12.91	12.68	
1827							05 45 35.58	−07 57 59.1	3	17.87	16.12	14.63	13.21	12.53	12.24	
1828							05 45 37.82	−06 20 52.3	1	18.49	16.42	14.70	13.12	12.44	12.20	
1829							05 45 38.98	−06 20 53.3	1	17.01	15.11	13.51	12.04	11.37	11.13	
1830							05 45 45.49	−07 54 01.8	4	17.95	18.27	14.86	13.56	12.45	11.62	
1831							05 46 01.99	−05 07 13.4	1	18.68	16.63	14.54	12.89	12.23	12.00	
1832							05 46 05.62	−07 37 19.9	1	16.92	14.79	13.57	12.37	11.62	11.42	
1833							05 46 12.37	−03 13 20.7	1-4	20.33	18.86	16.28	14.24	13.67	13.31	
1834							05 46 13.56	−05 35 33.9	2-3	19.21	16.94	15.27	13.54	12.97	12.69	

Notes. ^(a) Kiso $H\alpha$ catalogue from Wiramihardja et al. (1993) ^(b) Herbig & Bell (1988) catalogue. ^(c) Haro (1953) catalogue: Haro 4-1 to 4-255, Parsamian & Chavira (1982): Haro4-256 to 4-495, Haro & Moreno (1953): Haro5-1 to 5-98. ^(d) An asterisk means a star also listed in Szegedi-Elek et al. (2013) ^(e) Positions extracted from the 2MASS All-Sky Catalog. ^(f) The $H\alpha$ strength is defined so 1 is weak emission against a strong continuum and 5 is strong emission against a weak or invisible continuum. Hyphenated values may represent either variability and/or uncertainty in the estimate. A '+' indicates resolved spectra in unresolved DSS image ^(g) The magnitudes m_J , m_F , and m_N are from the blue (IIIaJ emulsion), red (IIIaF emulsion), and infrared (IV-N emulsion) digitised sky survey, extracted from USNO-B catalogue or from GSC 2.2. ^(h) JHK_s magnitudes extracted from the 2MASS All-Sky Catalogue.

⁽ⁱ⁾ Notes to individual stars:

1 - Double with 591. 2 - Unresolved photometry. 3 - Double with 590. 4 - 3" S of Kiso 75-87. Photometry from SDSS. 5 - W component of close pair. 6 - Unresolved binary 608W and 608E. $H\alpha$ emission seen in both components, strength 2 and 3, resp. 7 - Unresolved binary 640W and 640E. $H\alpha$ emission seen in both components, strength 4 and 1, resp. 8 - NE component of close pair. 9 - W component of unresolved pair. 10 - In small nebula.

11 - E component of close pair. 12 - Binary, emission in W, fainter component. 13 - SE component of close pair. 14 - Photometry includes faint component to W. 15 - Double with Kiso 76-91. 16 - Double with PaCh 115. 17 - This object is not V750 Ori. Misidentified in the Simbad database. 18 - Double with 989. 19 - Double with 988. 20 - Chanal's object.

21 - Double with 1018. $m_J m_F m_N$ photometry in common. 22 - Double with Kiso 76-114. $m_J m_F m_N$ photometry in common. 23 - $m_J m_F m_N$ in common with Kiso 76-118. 24 - $m_J m_F m_N$ in common with 1058. 25 - NW component of close pair. 26 - Double with 1072. 27 - Double with Kiso 76-124. 28 - I from Jones & Walker (1988). 29 - Stellar. 30 - Unresolved double.

31 - SW component of close pair. 32 - Close to 1233. 33 - Close to Kiso 76-162. 34 - Very faint continuum, no photometry. 35 - $m_J m_F m_N$ unresolved from 1238. 36 - $m_J m_F m_N$ unresolved from 1236. 37 - 1'3 NW of V417 Ori. 38 - Photometry unresolved from 1239. 39 - $m_J m_F m_N$ photometry unresolved. 40 - Double with Haro 4-164.

41 - Double with 1251. 42 - Double with Kiso 76-188. 43 - Double with 1301. 44 - Double with 1411. 45 - Double with 1410. 46 - Double with Kiso 76-231. 47 - Double with 1412. 48 - Photometry contaminated by faint component to SE. 49 - SW component of binary AX Ori. 50 - NE component of brighter AX Ori.

51 - Double with Kiso 76-243. 52 - Double with 1444. 53 - Double with 1467. 54 - Double with 1464. 55 - In L1641 N. 56 - Cohen-Schwartz's star. 57 - NW of and near brighter PR Ori. No photometry. 58 - Double with 1538. 59 - NW comp to V846. 60 - Double with 1645.

61 - Double with Haro 4-439. 62 - Sugano's star, Abastumani 24. 63 - Has a faint comp to NW. 64 - On rim of HH 449. 65 - In nebula. 66 - Also given as Haro 4-461 by Parsamian & Chavira (1982). 67 - Double with Kiso 76-368. 68 - Double with 1725. 69 - has IR comp to SW.